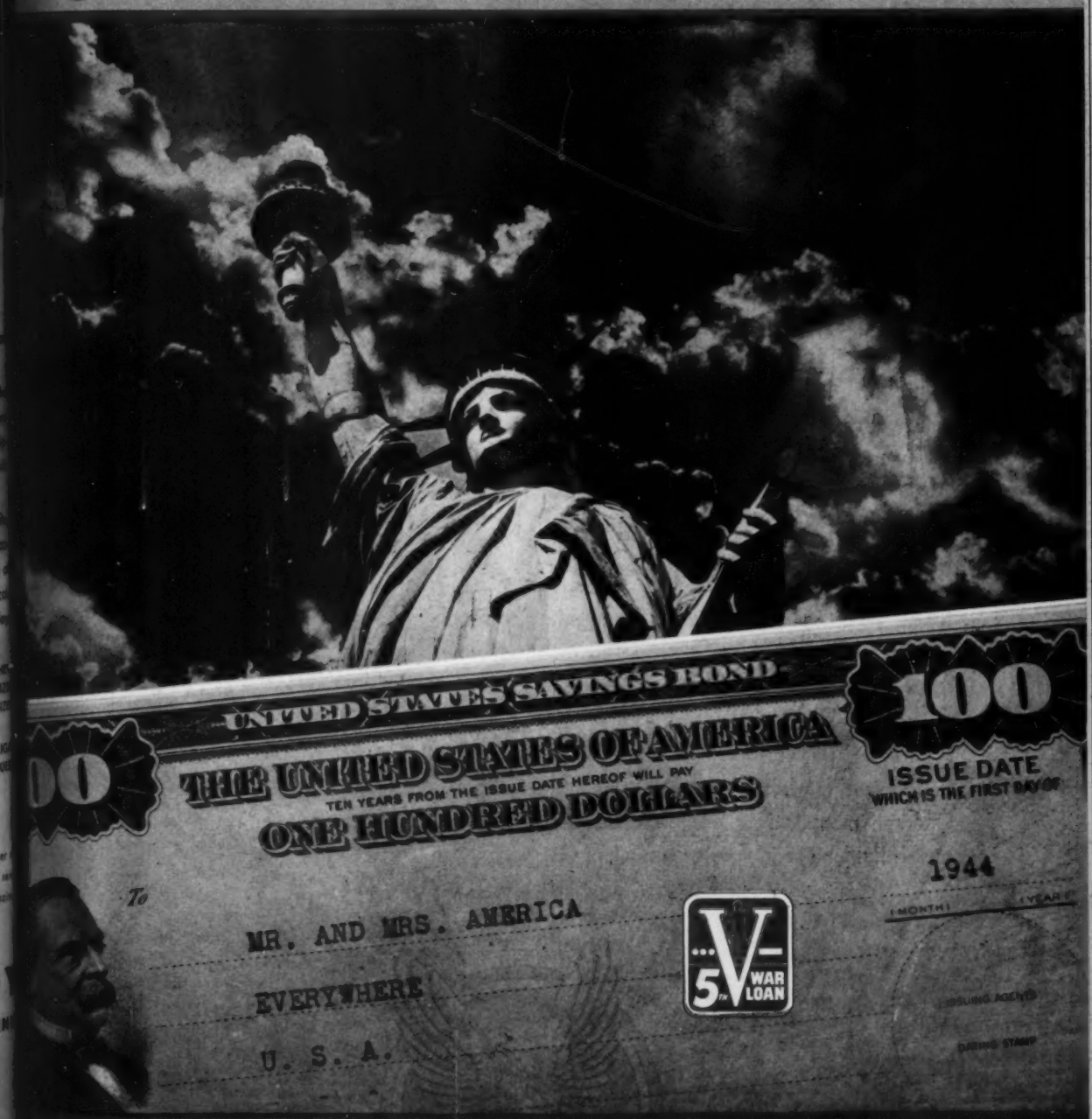
OHIO STATE UNIVERSITY
JUN 27 1944
LIBRARY

FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

...mber JUNE, 1944 Vol. 97, No. 6



A CASE - SHEPPERD - MANN PUBLICATION

"SAVING LIVES"

The Biggest "Kick" in Fire Fighting!

Is Everyday Work For The

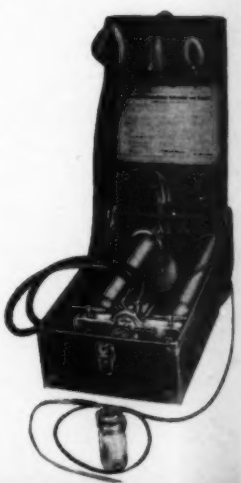
EMERSON

RESUSCITATOR

SAVE LIFE—the first rule of fire fighting, and the greatest thrill! But to do this you must be prepared with the best life-saving apparatus available—and that means

EMERSON EQUIPPED

Recognized leaders among America's fire fighters will tell you that Emerson resuscitators and iron lungs are your best assurance of saving human life in your community.



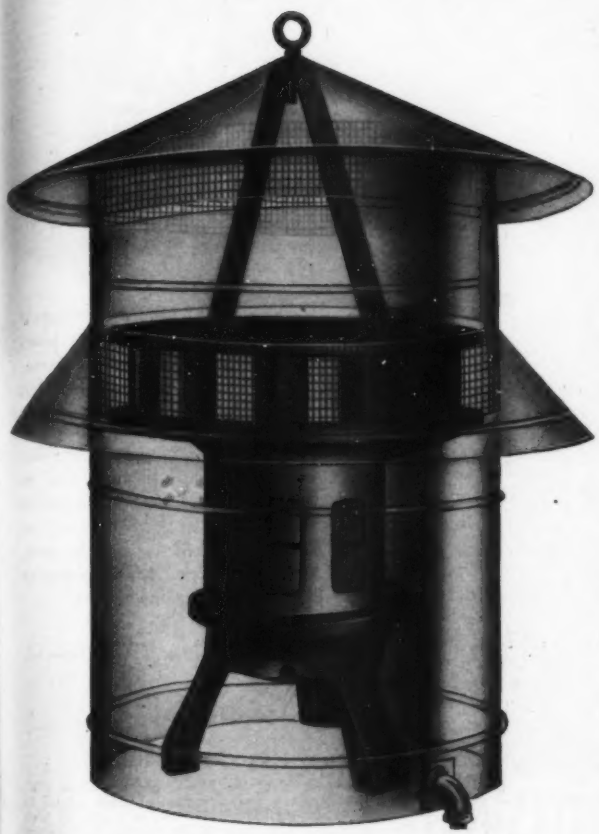
Write for further data or a demonstration before your department.

J. H. EMERSON COMPANY

Representatives in Principal Cities

27 COTTAGE PARK AVENUE • CAMBRIDGE, MASS.

Available Now
FROM LARGE STOCKS!



For maximum audibility, dependability, and and long life install FEDERAL Vertical Sirens.

WHEREVER a signal must be audible over a large area, install a FEDERAL Vertical Siren—the general alarm siren that is backed by more than 40 years of "sound" engineering and thousands of installations that are giving perfect satisfaction.

The FEDERAL Vertical Siren is superior because it radiates sound equally in all directions. Its weatherproof housing does not muffle the siren tone.

These sirens are built with ample overload capacity—horsepower developed far exceeding the rating. Grease sealed ball bearings and precision construction further assure dependability and long life.

FEDERAL VERTICAL SIRENS are ready for immediate shipment upon receipt of your order accompanied by permission to purchase on WPB-1319.

Act now! Get maximum protection—FEDERAL VERTICAL SIREN PROTECTION—for your community!

WRITE FOR BULLETIN!

FEDERAL ELECTRIC CO., INC.
SIREN HEADQUARTERS

8702 So. State Street Chicago 19, Illinois

FIRE ENGINEERING

A Consolidation of Fire and Water Engineering, The Fire Engineer and Fire Protection

CONTENTS

Vol. 97 June, 1944 No. 6

	Page
With the Editor By Fred Shepperd	347
Farm Fire Prevention Program Cuts Losses in Illinois By Carrol C. Hall	348
When Discharge of Municipal Firemen Is Legal By Leo T. Parker	351
Roi B. Woolley Joins Editorial Staff	353
Practical Training for Auxiliary Firemen By Fred Shepperd	354
With Our Readers	362
Questions and Answers	365
The Watch Desk By Roi B. Woolley	366
False Alarms	370
The Round Table Replacement Program for Pneumatic Tires on Fire Apparatus	376
What's Burning	384
Warfare By Roi B. Woolley	386
Manufacturers' Announcements	389
Convention Dates	394

FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

Welcome, Roi Woolley!

WE are glad to inform the readers of FIRE ENGINEERING that a prominent and highly esteemed authority of the field has just joined our staff.

● Starting June 1, Roi B. Woolley becomes Assistant Editorial Director of the Case-Shepperd-Mann Publications, to the great satisfaction of Fred Shepperd and, in fact, of the entire field in which we serve.

● We know that our readers will welcome Roi Woolley as heartily as we do here at headquarters.

● Mr. Woolley has been serving in Washington for the past two years with the Office of Civilian Defense, as Chief of the Coordination Unit of the Fire Defense Section.

● Prior to that he spent eight years with McGraw-Hill Publishing Co. as Director of Research and Promotion of several of their publications; so the publishing field is an old love, as is the fire service. More power to him in his new responsibilities!

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Works Engineering, Sewage Works Engineering*, etc. ¶Subscription price U. S. and Latin America, $2.50 a year; Canada, $3; Foreign, $3.50; Single copies, 25c. ¶Member of Audit Bureau of Circulations and Associated Business Papers, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879. ¶Contents of this issue copyrighted, 1944, by Case-Shepperd-Mann Publishing Corp. ¶KARL M. MANN, President; I. HERBERT CASE, Vice-President and General Manager; FRED SHEPPERD, Secretary and Editorial Director; W. J. GIBSON, Eastern Representative; WM. H. TOPHAM, Circulation Manager. CHICAGO OFFICE: W. S. CLEVENGER and L. M. ROCHE, 6 No. Michigan Ave., Chicago 2, Ill.; SAN FRANCISCO: CHARLES H. WOOLLEY, 605 Market Street, San Francisco 5, Calif.; LOS ANGELES: AUGUST HAURIN, 6000 Miramonte Blvd., Los Angeles 1, Calif. ¶Printed in U. S. A.

A CASE-SHEPPERD-MANN PUBLICATION
"Specialized Leadership"

HERE'S THAT NEW LADDER EVERYBODY'S TALKING ABOUT!

It's NEW! It's DIFFERENT!

SENSATIONAL CHANNEL CONSTRUCTION

Extra Light - Extra Strong

MAXIMUM SAFETY!

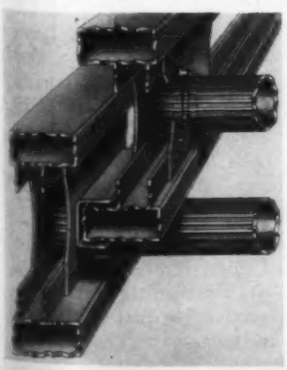
ALL METAL CONSTRUCTION

DUO Safety

ALL ALUMINUM (DURALUMINUM)

★ NEW TYPE "F" INDUSTRIAL LADDER ★

FAMOUS 500A SERIES
1-, 2- and 3-SECTION



The Answer to Real Fire Ladder Safety!

Husky, lightweight all-aluminum TUBULAR construction for SERVICE Truck use. Strength plus lightweight — no bending, loosening or weaving. In 1-, 2-, 3-section and roof. Write now!

COMPANION EQUIPMENT TO 500A SERIES

Exclusively designed for PUMPER use! All-aluminum lightweight CHANNEL CONSTRUCTION . . . rungs of extruded tubing heavily ribbed, insures positive gripping . . . rungs electrically welded to outside channel . . . a double rolled head, internally expanded on both sides of rung plate, prevents spreading . . . non-shearing rivets. Note elimination of sharp corners which makes climbing and handling easier! In 2- and 3-section, wall and roof models.

AVAILABLE IN LIMITED SIZES! PRICES AND FURTHER DETAILS GLADLY FURNISHED. ASK FOR CIRCULAR 101A!

DUO-SAFETY LADDER CORPORATION
810-813 NINTH STREET · OSHKOSH, WISCONSIN

SMOTHER FLAME WITH FOG

1 **NIGHT CLUB SAVED!** Outside the city limits—no water supply available! No one thought this fire could be put out. But—it was! FMC High-Pressure Fog smothered the flames in record-breaking time, and with the use of less than 500 gallons of water.

2 **14 MILES AWAY!** This large two-story farmhouse was all ablaze, front and rear, when the FMC Fog Fire Fighter arrived. Two low-pressure pumpers had failed to stop the flames with 1,800 gallons of water. The FMC unit put out the fire with 400 gallons.

FMC *High-Pressure* PUMP

BUILT ONLY BY BEAN

This is the pump that has revolutionized fire-fighting technique. It is a *wonder pump!* Built by experts for experts—under exacting step-by-step quality production control.

That's why it is free from mechanical troubles. That's why it is able to deliver and maintain 800 lbs. pump pressure, without overworking.

Investigate! There's nothing else like it!

FMC 800 LB. HIGH-PRESSURE FOG HAS REVOLUTIONIZED MODERN FIRE-FIGHTING TECHNIQUE!

Fight your fires the *modern* way—with FMC High-Pressure Fog. It will help you do a *faster, better* job!

The reason? The FMC High-Pressure Pump delivers and maintains 800 lbs. pump pressure — more than 600 lbs. nozzle pressure. This high pressure gives you a combination of finely-atomized water and high velocity—just what you need to cool and smother flame. Less than 600 lbs. nozzle pressure is correspondingly less effective.

Fires are put out from 10 to 35 times faster — with little or no water damage. Why? One gallon of this finely-atomized water, properly used, has the fire-quenching possibilities of 10 to 35 gallons of low pressure water.

Get the facts. You owe it to yourself to find out all about this new and revolutionary fire-fighting technique.

Right now—the Armed Forces are taking most of the production of FMC High-Pressure Fog Fire Fighters. But—start planning now! You should be ready to modernize just as soon as civilian needs can be met.

BUILDERS OF BEAN HIGH-PRESSURE

THE FMC HIGH-PRESSURE WAY

3 **HOT FIRE STOPPED!** One hose line and 200 gallons of FMC High-Pressure Fog quickly stopped the fire which had a beautiful start in this empty barn-garage. This is a splendid example of how a hot fire can be smothered out with very little water.

4 **10° BELOW ZERO!** When this semi-bungalow caught fire on an exceptionally cold night, every other pumper in the neighborhood was frozen up. FMC High-Pressure Fog quickly extinguished the fire, throughout the entire building, with only 400 gallons of water.

ONLY THE FMC HIGH-PRESSURE FOG FIRE FIGHTER PACKS THE NEEDED PUNCH TO PRODUCE AND MAINTAIN 800 LBS. PUMP PRESSURE. TESTED AND PROVED AT HUNDREDS OF TOWN, RURAL AND AIRPORT FIRES

STANDARD FMC FOG FIRE FIGHTER. A self-contained fire-fighting unit. Carries its own water supply and complete fire-fighting equipment. Provides two guns of 30 gallons each at 600 lbs. nozzle pressure.

FMC *Original* **HIGH-PRESSURE FOG FIRE FIGHTER**

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

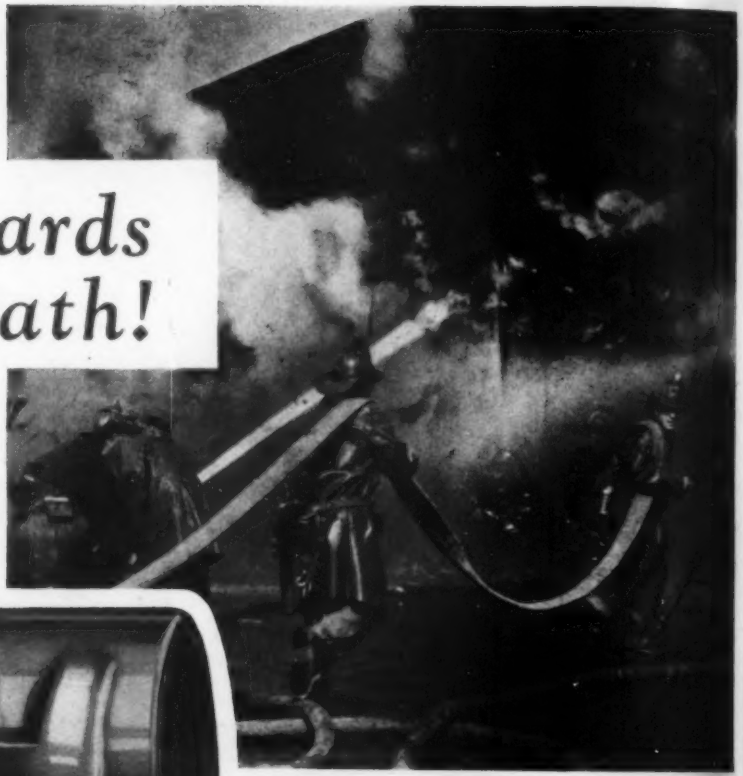
FOOD MACHINERY CORPORATION

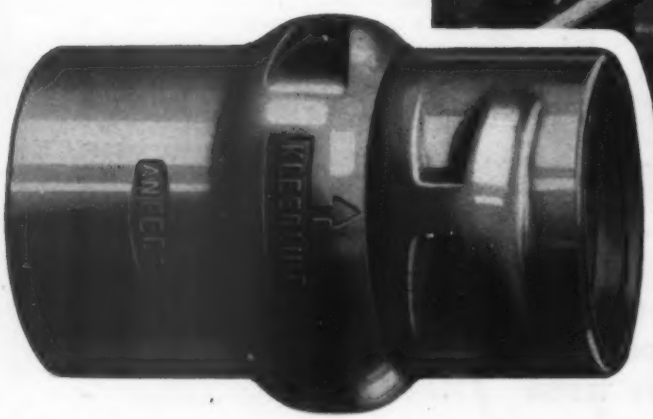
JOHN BEAN MFG. CO., 709 HAZEL ST., LANSING 4, MICH. • BEAN-CUTLER DIVISION, 409 JULIAN ST., SAN JOSE, CALIF.

PUMPS FOR OVER SIXTY YEARS

It will help if you will mention FIRE ENGINEERING *when writing advertisers*

Fell Backwards To His Death!





KLEERLINE COUPLINGS

Protect Your Men!

Fifty feet up on a ladder — an old-fashioned coupling catches — back goes another good man to a sudden and absolutely unnecessary death.

Chief — why tolerate dangerous pin lugs any longer? Insist on the new KLEERLINE couplings. Modern, streamlined for the protection of fire fighters. Made by a firm long established and specializing in precision manufacturing. This assures you one of the finest couplings money can buy. Insist on KLEERLINE Couplings!

★ INQUIRIES INVITED FROM RESPONSIBLE DEALERS IN FIRE EQUIPMENT ★

FASTER STREAMLINED BETTER MODERN DESIGN

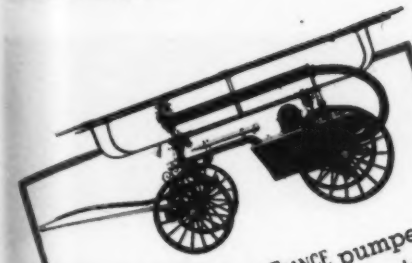
ANDERSON FIRE-FIGHTING EQUIPMENT COMPANY, INC.

407 WEST 36th STREET NEW YORK 18, N. Y.

MEdallion 3-3200

Please mention FIRE ENGINEERING *when writing advertisers*

THE *Evolution* OF A PUMPER



This AMERICAN-LAFRANCE pumper of yesterday was operated with ten men on each side—

- Hand drawn
- Hand operated
- Capacity 300 to 400 G. P. M.

is graphically illustrated by these two photographs. The last 40 years have brought important changes from the hand drawn, hand operated pumper—to the hand and horse drawn steamer—to the modern motorized pumper of today.

The 1944 *AMERICAN-LAFRANCE pumper is the last word in modern design and efficiency, giving a maximum of utility and reserve pumping capacity.

- Factory built
- V-12 Engines
- Centraflow pumps
- Capacity 750—1000—1250 G. P. M.

Centraflow pumps also available for commercial chassis equipment.

Write Today for Full Detail Specifications.

* LAFRANCE-FOAMITE in Canada

AMERICAN-LAFRANCE-FOAMITE CORPORATION
ELMIRA, NEW YORK, U. S. A.
LAFRANCE FIRE ENGINE and FOAMITE LIMITED
TORONTO 9, ONTARIO, CANADA

MAXIM

MOTOR FIRE APPARATUS

WE can't say when we will be able to serve you, but we will say that we will give you a finer piece of apparatus than you ever dreamed possible.

MAXIM MOTOR COMPANY
MAXIM
MIDDLEBORO, MASS.

MAXIM MOTOR COMPANY MIDDLEBORO, MASS.

E&J TO THE RESCUE

CHIEF W. B. SYKES
Portsmouth Fire Dept.

Department of Public Safety
BUREAU OF FIRE PREVENTION
PORTSMOUTH, VIRGINIA

K.L. Host
Chief of Bureau

April 29, 1944

E & J Manufacturing Company,
Drexel Building,
Philadelphia, Pennsylvania

Dear Sirs:

I am writing this to let you know about one of the worst tragedies to hit this part of our State, and the part that our new E & J Resuscitator played in saving lives.

We received the call at 7-10 P.M. and reported back in service at 11 P.M. This machine was the only one of its kind on the job, all others were inhalators. We don't know just how many men we worked on, but none of them died. We worked on them, two at a time, until there were no others to work on.

We started working with two of the small tanks in the machine, but before the first tank gave out we had a 200 cubic foot tank connected in. This big tank did the job in furnishing the gas and the resuscitator did the rest.

One man was being given artificial respiration (manually), the resuscitator took over and showed a throat block, the catheter was inserted into the throat and did the work. That man is living today because our machine was on the job. This man was worked on by two hosemen who have had only two classes in instructions on the E & J Resuscitator.

Our machine was first carried to the dock where the ship was tied up, several men were worked on here, as soon as the doctor in the dispensary found out what kind of a machine we had he called for it and we worked with him at the dispensary until the last man had been sent away.

Respectfully yours,
K. L. Host
Captain K. L. Host

At the recent Norfolk Navy Yard ship fire in which 15 were killed and many injured the Portsmouth Fire Department helped save several lives with its new

E&J
RESUSCITATOR
INHALATOR and
ASPIRATOR

THE above letter, telling about the fatal ship fire at the Norfolk Navy Yard on April 27, speaks for itself.

It is obvious that a magnificent job was done by the Portsmouth Fire Department which responded to the call for help with an E & J equipped squad in charge of Asst. Chief Hall and Capt. Host. And especially significant is the fact that every one of the victims treated with the E & J Resuscitator was saved. Chief W. B. Sykes was complimented for his good judgment in buying the E & J machine, which had been in service only a month and used here for the first time.

Once again, performance gives conclusive proof of E & J superiority.

★ *For further information write any of our distributors listed below.* ★

E & J MANUFACTURING CO., GLENDALE, CALIF.

New York City · Pittsburgh · Detroit, Mich. · Boston · Chicago
3032 W. 25th Ave., Denver, Colorado

Pioneers and Specialists in Mechanical Artificial Respiration

BEHIND THE SEAGRAVE EMBLEM

The Seagrave emblem on your fire apparatus means that you have the best in engineering and the ultimate in mechanical perfection. . . . Motors, cabs, bodies, pumps, ladders and other principal parts are designed by Seagrave engineers and built in Seagrave's factory . . . built to work together as a dependable unit . . . built to give you trouble-free service. . . . That's why it always pays to specify Seagrave.

THE SEAGRAVE CORPORATION—Columbus, Ohio
Bickle-Seagrave, Ltd., Woodstock, Ont.

SEAGRAVE

THE GREATEST NAME IN FIRE APPARATUS

IT MUST BE AKRON TO BE GENUINE ROCKERLUG

Trade Mark Registered

THE COUPLING *With These Exclusive Features:*

- HIGBEE THREAD
- HIGBEE INDICATOR
- TAPERED STILL THREADS

Made in brass or malleable iron subject to limitation order 39.

Malleable iron couplings have our *piston ring* swiveling feature.

AKRON BRASS MFG. COMPANY, INC.
WOOSTER, OHIO

AMERICA'S Outstanding Coupling

ROCKERLUG has maintained this position throughout the more than 19 years since it was introduced by Akron Brass. The popularity of ROCKERLUG in the fire fighting field has grown each year until today more than 90 per cent of the municipalities of the United States have standardized on genuine ROCKERLUG couplings. Safeguard against "like" couplings. Remember—Akron Brass originated ROCKERLUG. Only Akron Brass offers you the genuine.

Be sure to specify AKRON when ordering ROCKERLUG couplings.
Our trade mark protects you

AKRON BRASS
FIRE FIGHTING EQUIPMENT

Flown 1,000 miles to perform the greatest fire-fighting achievement in the history of the sea . . . 150 miles off the Canadian Coast . . . Rockwood WaterFOG equipment helped eight Navy firemen subdue a fire that had been raging for 30 hours on the transport U. S. S. Wakefield (former "Manhattan"). Thus our second largest transport, seemingly doomed to certain destruction, was saved for further service.

Navy, Coast Guard, Maritime Commission and Army and hundreds of industrial plants rely on WaterFOG equipment—fixed piping or hose nozzles—to put out oil fires fast. For WaterFOG is man-made fog . . . water broken up into tiny particles by impinging streams of water from specially-designed Rockwood nozzles.

Its fire-fighting principle is simple . . . speed of heat absorption increases with surface area exposed to heat. Rockwood nozzles multiply many times the total surface area of a given volume of water, giving it capacity to cool fires faster. Furthermore, WaterFOG drifts over the liquid (instead of plunging into it), thereby retarding vaporization. Finally, it becomes steam, shutting off air. Thus, it cools, confines, starves the fire.

With WaterFOG, less water is needed, saving water and water damage. "Flash-back" is prevented. Electrical fires are controlled with minimum of damage. Rockwood-engineered installations are approved by Underwriters' Laboratories and Associated Factory Mutuals.

Write today for Bulletin 123.

ROCKWOOD SPRINKLER COMPANY
54 Harlow Street, Worcester 5, Mass.
Specialists in Fire Protection Engineering, Equipment and Installation since 1907

ROCKWOOD WaterFOG

Water Engineered by Rockwood Cools, Confines, Smothers Oil Fires

Oil Fire in Shell Plant Nipped by WaterFOG

Under the grating is a 4000-gallon quench tank. Shell casings leaving the hardening furnace are immersed in the oil before reaching the conveyor at the right.

When the oil in that tank caught fire, it took only 9 seconds for WaterFOG to put it out!

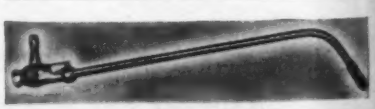
The only damage was blistered paint on wood post near the discharge end of the furnace. The quench tank was back in operation shortly after.

One of the WaterFOG heads is shown circled. It is protected by a blow-off cap. Each of the heads is connected by fixed piping to a Deluge Valve which supplies water upon the automatic detection of fire.

On this and many other oil fire hazards, a WaterFOG system of fixed piping, heads, valves, and automatic controls has proved to be the most efficient form of fire protection. Because the spacing of heads, distance between heads and hazard, and other factors are important in determining correct particle size, fog pattern, and velocity, it is recommended that WaterFOG systems be installed by ROCKWOOD engineers (authorities on hydraulics as applied to fire protection).

Typical WaterFOG Applications
- quench and dip tanks
- paint shops
- transformers
- oil switches
- dryers
- oil storage

etc.



Portable WaterFOG Equipment for Regular Fire Hose Lines

The photograph shows Rockwood's SG-40 Nozzle equipped with extension applicator which discharges low-velocity WaterFOG in ball shape.

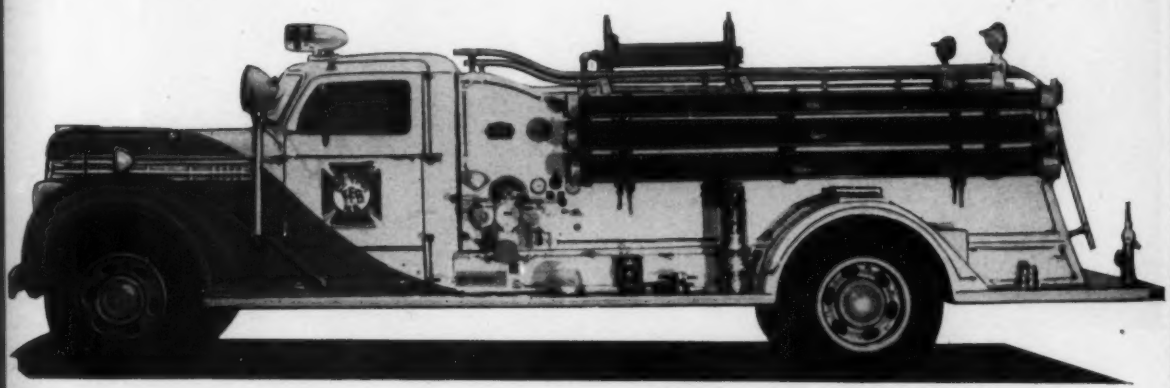
With the applicator removed and a FOG Tip inserted, this nozzle will discharge either high-velocity WaterFOG with considerable forward projection, or a straight stream for attacking inaccessible places or rooting out deep-seated fires.

The 1½" SG-40 Nozzle takes 4' or 10' applicator; the 2½" size takes 12' applicator.

EXECUTIVES: A colored movie (16 mm.) showing tests of Rockwood WaterFOG is available.

OREN

"THE SOUTH'S ONLY FIRE TRUCK MANUFACTURER"



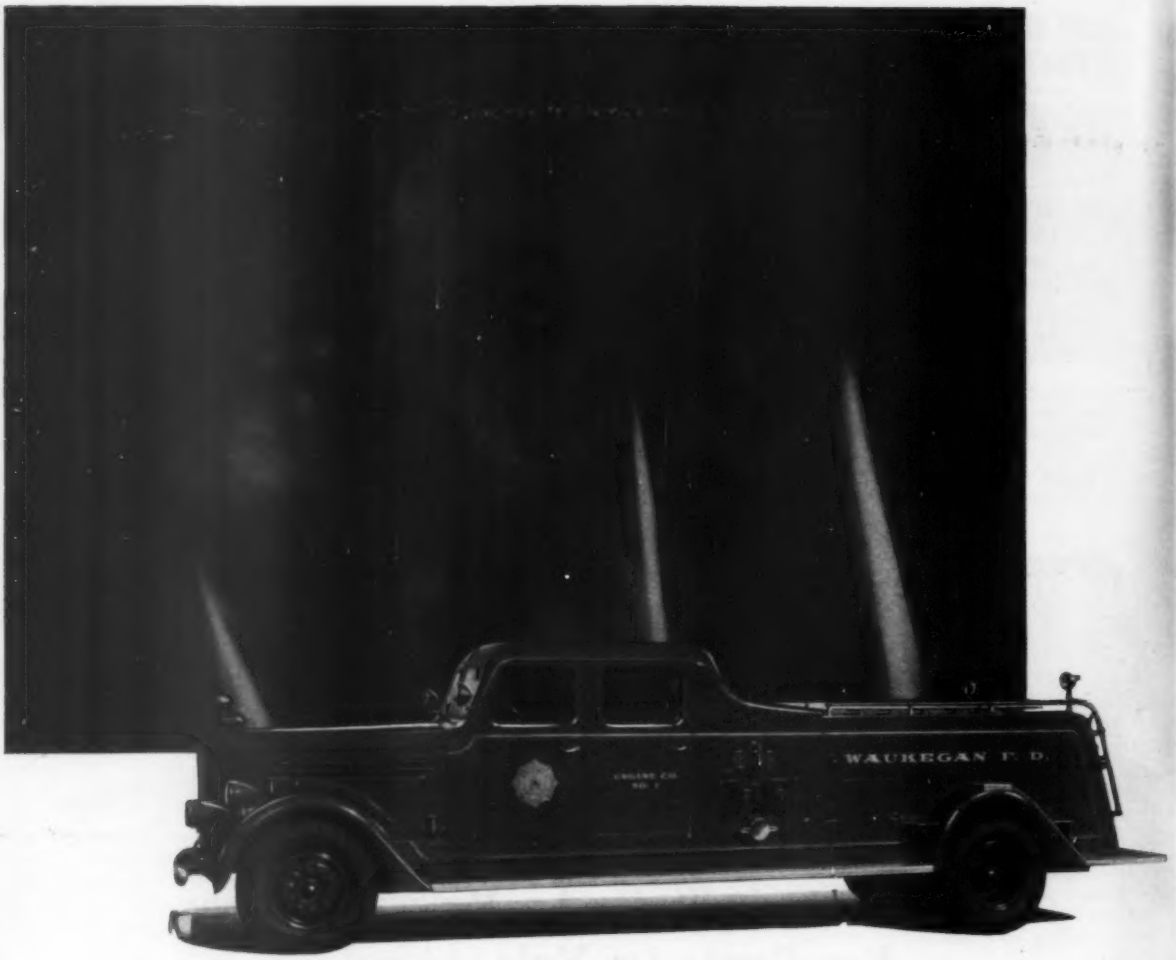
An OREN built for La Vale Volunteer Fire Dept., La Vale, Maryland

★

OREN builds a complete line of Fire Trucks. Write for information.

OREN FIRE APPARATUS COMPANY

1201-9 West Salem Avenue
ROANOKE, VIRGINIA

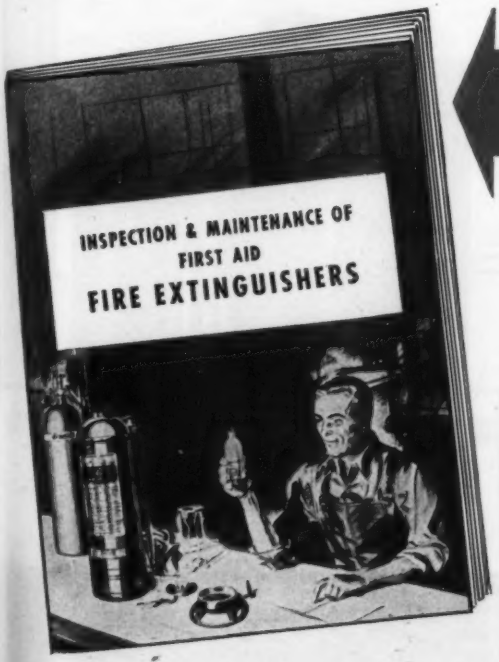


WHEN EFFECTIVE FIRE STREAMS ARE REQUIRED PIRSCH SUPPLIES THEM—effective fire streams are the product of sound design, good materials and proper workmanship; Pirsch pumping engines have all these necessary basic fundamentals plus large reserves in engine, pump and other major units which insure years of dependable capacity performance and maximum service.

Consider Pirsch the next time you buy fire apparatus.

PETER PIRSCH & SONS CO. KENOSHA, WIS.

"BUILDERS OF AMERICA'S FIRST ALL-POWERED AERIAL LADDER TRUCK AND AMERICA'S FIRST 100' AERIAL LADDER"



FREE BOOK tells how to be sure your extinguishers are ready!

Your fire extinguishers are *first aid* equipment. They must be ready to nip fires quickly — and that means they must be in top form *at all times*. Regular inspection is the only sure way to keep them in condition.

The booklet shown here has just been issued by Walter Kidde & Company to help you set up a fire extinguisher maintenance system. It covers all types of equipment, gives *specific* instructions. Write for your copy of this free booklet today!

Kidde

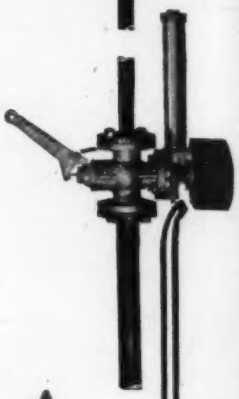
WALTER KIDDE & COMPANY, INC., 140 CEDAR STREET, NEW YORK 6, N. Y.

Kindly mention FIRE ENGINEERING *when writing advertisers*

GAMEWELL

A Complete ALARM SYSTEM

For Volunteer Fire Departments



THE GAMEWELL FIRE ALARM SYSTEM, designed especially for the smaller communities is characterized by its simplicity, low initial and maintenance costs.

The control cabinet includes the necessary storage batteries with rectifier, register for automatically recording alarm, testing instruments, line terminals and all other essentials — with capacity to accommodate from One to Forty fire alarm boxes.

THE DIAPHONE HORN provides coded signals *directing your firemen to the scene of fire* — or your own siren or other public alarm may be utilized.

Installation is simple — we supply complete directions.

We invite your inquiry.

DIAPHONE HORN
Operated by Compressed Air
The Circuit is shown connected with the Electric Control Valve.

GAMEWELL FIRE ALARM BOXES
Connected In Series
In Closed Metallic Circuit

110 VOLT A.C.

GAMEWELL CONTROL UNIT
VITAGUARD SYSTEM
With Self-Winding Register — Manual Transmitter for Sounding Alarms Received By Telephone — Control Switches — Test Switches and Instruments — Batteries, Rectifiers and Line Terminals Mounted Within the Cabinet.

THE GAMEWELL COMPANY
Newton Upper Falls, Massachusetts

FIRE ENGINEERING

JUNE, 1944 VOL. 97. NO. 6

With the Editor

State Control System

Under this title the Office of Civilian Defense has issued a bulletin, dated March, 1944, setting forth a plan for "organizing and exercising control over reinforcement of emergency services among communities ——." In plain language, this means that the OCD wants emergency state control over fire departments and recommends that such control be set up to function in the event of major disasters.

Asserting that "the impact of natural disasters in several communities in different sections of the country has demonstrated to those communities and to all who have studied the problem of handling disasters that local communities are often not capable of coping with these disasters using their own equipment and personnel," the bulletin naively adds: "Should a bombing attack occur, communities may be unwilling to provide assistance to affected communities for fear that they themselves may be subjected to attack later."

The bulletin boldy states that "A state control system provides the most efficient system for handling intelligence reports from local communities, and for dispatching needed reinforcements. The state control center is the central point from which interested state, federal and national agencies obtain reports covering the damage in any part of the state."

Under the heading "State Organization of Civilian Protection" the following is included:

"Whatever the form of legal basis for the state control system, it is likely that provision will be made for a director of civilian defense in the state. The director may appoint someone, possibly a deputy director, to administer the civilian protection program. The deputy director in charge of civilian protection will be supplied with a staff the size of which will, of course, differ between states. The establishment of a state control system will necessitate the appointment of State Chiefs of Emergency Services."

With reference to finances, the illuminating suggestion is made that "the establishment of state control will call for the expenditure of some money."

A careful review of this bulletin leads to the conclusion that the OCD is trying desperately to find some way of perpetuating its existence. Federal curtailment of appropriations has caused a tremendous shrinkage in size of the OCD. It is now but a very frail skeleton of its former self, and those who remain must see a very dark picture ahead. It is natural to grasp at any straw when completely submergence threatens.

But state control of the fire service is neither desired nor needed, no matter under what scheme or by what sponsorship it might be brought about. County and other local mutual aid organizations are proving fully effective in handling "natural disasters." Enemy bombing, on the other hand, is today considered as being entirely out of the class of probabilities.

We feel that state control of the fire service under any guise is undesirable and unnecessary. Furthermore, the fire service has had its fill of OCD bungling and could not be expected to cooperate wholeheartedly in any setup dominated by OCD politicians.

Fred Shepperd

Farm Fire Prevention Program Cuts Losses in Illinois

Volunteer Fire Wardens, Trained by State, Carry Fire Prevention Instructions to Rural Sections

By CARROL C. HALL

JOHN H. CRAIG, Illinois State Fire Marshal, has developed a plan for carrying fire prevention instruction to the farmers of his state which utilizes the school district. The "key" men of his extensive program are volunteer farm fire wardens.

This annual destruction of property, machinery, produce—even lives has challenged the Illinois Fire Marshal, who is a successful farmer himself, to attempt to better conditions in the state.

Acting on the assumption that 90 per cent of all fires are strictly preventable by the exercise of ordinary care, the Illinois marshal plans to reduce these losses through an organization of trained rural fire wardens covering every rural school district in the state.

A Special Fire Truck Used by Illinois Division of Forestry

These trucks scattered at convenient centers throughout rural Illinois are great aids in fire control. Farmers are taught to be familiar with this type of equipment.

Craig's choice of the school district as the fundamental political division of his fire prevention program is, indeed, a wise one. Illinois is a state of many one-room schools—almost 10,000 of them. Already the Illinois marshal has in training nearly that number of volunteer wardens.

The Illinois program was born out of the activities of the Illinois State Council of Defense of which Craig is the State Fire Coordinator. However, the program is not to be limited to the war-emergency period. If Craig's plans are carried to their completion, the program will give the state a permanent scheme for prevention and controlling rural fires.

According to Craig, "Fire losses in Illinois have been appalling." In any typical year, for example, there has been an average of six farm fires a day throughout the state with an annual total loss of nearly five millions of dollars. One-fourth of the fire losses of the state usually occur in rural areas.

During the first year of operation of the fire marshal's new plan, Illinois farm fires decreased by a total of 105, with an estimated saving in property losses of over $100,000. This is a remarkable feat in view of the general increase of values in farm property, machinery and crops.

In developing his program, Craig chose as State Rural Fire Coordinator a representative from the State Forestry Service. Consequently, in the Illinois program the two services work together.

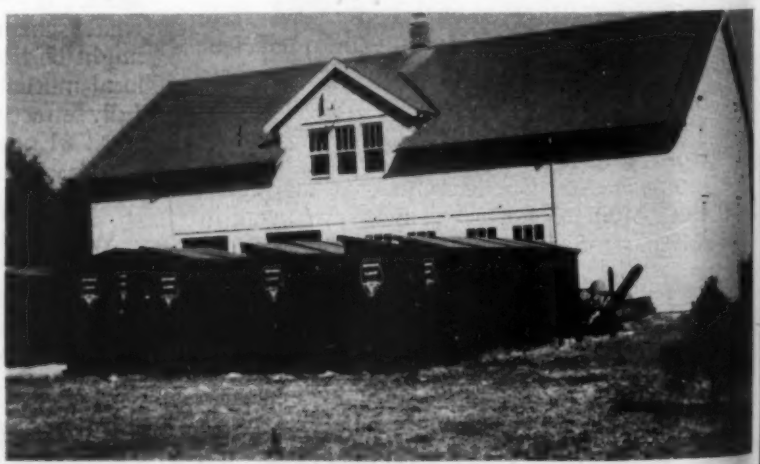
In each county throughout the state a rural fire protection committee is appointed. This committee consists of a committee chairman and five members.

A widely representative group makes up each county committee. Typical committee members are: the county farm adviser, the sheriff, a state game warden, superintendent of schools, a prominent farmer, or, other typical county leaders. Their big job is to obtain a volunteer fire warden in each school district of the county. Of course, they are expected to lend assistance to the program in any way the State Fire Marshal's office may request.

Jackson county, in southern Illinois, is recognized as having the best organization in the state. Al Herring, fire chief at Murphysboro, is primarily responsible for that county's fine organization.

The volunteer school district fire warden must meet rigid qualifications. Here are the standards set for the "key" man in the Illinois program:

The fire warden must have good physical fitness; a truck for emergency use in fire suppression; a telephone (whenever possible); an interest in the



At a Forestry Distribution Center

Fire fighting tools are stored in these buildings when they are distributed throughout Illinois rural areas. Some are even used by small communities. The State Forestry Service cooperating with the Fire Marshal's office furnishes this item. The tools are sent out where they do the most good and are in the custody of the school district fire warden.

program; leadership; ability to secure co-operation of his farmer neighbors; and time to devote to the program. These high standards are making the volunteer fire warden a symbol of the best in rural leadership in Illinois.

Men chosen as wardens in each county are called together and are given intensive instruction in abating fire hazards and in fighting fires by adapting simple equipment which is available on every farm.

The wardens are also instructed in fighting fires in fields and woods. The men before assuming their duties in the school district are fully qualified fire fighters and are trained in the best methods of farm fire control and prevention.

Representatives of the State Fire Marshal's office and the State Forestry division are the instructors in the schools held for the volunteer farm fire wardens.

Training Manual Issued

To help in the training program, a manual is provided all the school district wardens. The Illinois School District Rural Fire Warden's Manual as prepared by John H. Craig's office is a 68-page booklet filled with extremely valuable information. It is illustrated with excellent, easily comprehended drawings and the copy is in terse, well-written form. It is just the thing for learning how to control fires that occur about the farm and in other rural situations.

This manual is such a good piece of work that it is used in many of the district schools throughout the state as a textbook for the teaching of farm children the principles of fire prevention and control.

An examination of the manual discloses that it is divided in two sections. The first—is devoted to Fire Protection in Farm Homes and Farm Buildings. The second—is concerned with Fire Prevention in Forests, Fields, and Crops.

Topics discussed in the first section include: typical dwelling and barn fire hazards; equipment easily provided; types of extinguishers and their care; forcible entry into buildings; and a check list for surveying individual farm hazards.

The second section of the fire warden's manual discusses: the effects of fire; the causes of fire; fire detection; fire tools; organization for fighting large fires; kinds of fires; parts of a fire; factors affecting fire behavior; methods of checking the spread of a fire; general rules of fire suppression; 18 typical problems of fire suppression; errors frequently made in fire fighting; safety practices; and a brief resume of the Illinois fire laws.

After the training course has been completed, the school district wardens carry the program to key farmers in their district. The manuals just described are distributed to the farmers. The wardens have power to appoint farmers located in their school district for the purpose of suppressing, home, building, woods, field and crop fires as they occur.

It has been the State Fire Marshal's hope that the wardens will be welcomed to the various farms for an inspection tour of the buildings and premises for purpose of checking fire hazards and the installation of fire fighting aids. The general reluctance of the average farmer to "meddle with the other fellow's business" acts somewhat as a check on this phase of the program.

The Marshal's office has found the plan of taking groups of farmers over another man's farm has not worked well either. So the effort is still being made to get the farmer to extend the invitation for a private inspection tour to his own district warden. Many farmers are now co-operating with this idea.

Although interested in the rapid extension and development of the program, Craig and his co-workers have proceeded with a thoroughness that has greatly increased the probable effectiveness of the entire plan. The first year's operation of the program (it was started late in 1942) saw only 48 of the 102 counties in the state come far enough along with their organization to be considered as having the program in full operation.

During 1943, fifty county schools for fire wardens have been held, with an attendance of over forty-five hundred persons. It must be kept in mind that those attending the meetings are carrying the message of fire prevention and control back to the individual farm units; as a result, the program is reaching more persons than the attendance figure indicates.

DEPARTMENT OF PUBLIC SAFETY
DIVISION OF FIRE PREVENTION

Classification of the Fire Loss in the State of Illinois, Giving the Number of Fires and the Loss, Classified According to Causes

Month July 1, 1943 to June 30, 1944

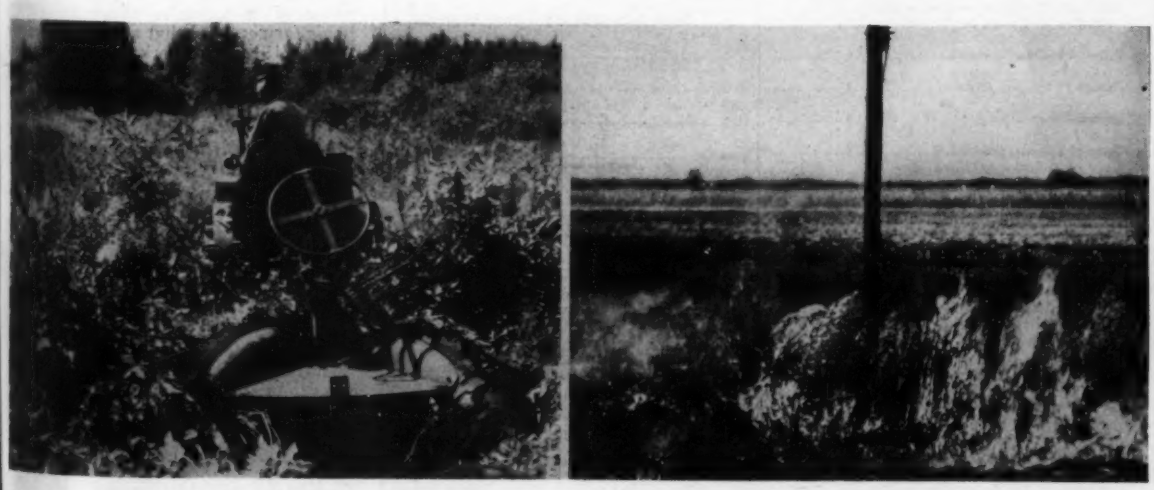
CAUSE	NO.	DAMAGE
1.—Chimneys, Flues, Cupolas and Stacks, overheated or defective	139	$ 246,745
2.—Conflagrations		
3.—Electricity (except electric irons and similar small devices)	118	426,809
4.—Explosions	18	37,900
5.—Exposure	280	189,257
6.—Fireworks, Fire Crackers, Balloons, etc.	1	100
7.—Friction, Sparks occasioned by running machinery	5	3,426
8.—Gas, Natural and Artificial	1	10
9.—Hot Ashes and Coals, open Fires	18	7,036
10.—Hot Grease, Oil, Tar, Wax, Asphalt (ignition of)	9	12,676
11.—Hot Irons, including electric devices	3	280
12.—Incendiarism	9	51,100
13.—Lightning—buildings rodded	15	47,982
14.—Lightning—buildings not rodded	146	310,614
15.—Matches, Smoking	47	97,869
16.—Miscellaneous—Cause known, but not classified (for unknown see No. 27)	18	79,110
18.—Open lights	15	15,380
19.—Petroleum and its Products	164	192,695
20.—Rubbish and Litter	12	2,907
22.—Sparks—Arising from combustion (other than 23)	99	36,444
23.—Sparks—On roofs	200	280,811
24.—Spontaneous Combustion	48	142,758
25.—Steam and Hot Water Pipes	1	900
26.—Stoves, Furnaces, Boilers and their Pipes	119	801,880
27.—Unknown	317	1,715,049
28.—Unknown origin, but investigation important	9	48,488
	1,941	$ 4,146,917

Classification of Rural Fire Losses in State

School District Warden Works Closely With State Fire Marshal

At all times the school district fire warden works closely with the State Fire Marshal's office. He attends all meetings sponsored by the office that are held in his county. He inspects farm premises along with the state deputy fire marshals and thus learns the things to look for.

In return, the Fire Marshal's office aids the volunteer fire warden in holding



Left: Special Equipment for Plowing Fire-Breaks in the Wooded and Brush Areas. Demonstrations of this Type of Fire Control Are often Given in Illinois Rural Areas. Right: Field, Roadside and Brush Fires Are Common throughout Rural Districts. Trained Rural Fire Wardens and Farmers Should Know how to Control Fires under Present Illinois Plan.

meetings in his school district. Often they present programs in the school house, showing movies, furnishing speakers, distributing literature. Farmers of the district and their families are invited to attend.

The Illinois State Fire Marshal is practical enough to realize that the appointment of a warden and the publication of a fire-fighter's manual is not all that is needed to put over a good rural fire prevention program. His office, is therefore, ready at all times to assist the wardens in their work and help in the education of the average farmer.

Exhibit Sent to State Fairs

For instance, during the year 1943 the Fire Marshal sponsored a traveling exhibit that made the rounds of the Illinois county fairs. The exhibit was scheduled for 12 of the sixty fairs held. No less than 175,000 Illinois farmers saw the exhibit!

The volunteer fire warden's closest tie to the state office is in form of a report that he makes of fires occurring in his district. All fires are reported to the State Fire Marshal's office on special forms. These reports are in reality detailed explanations and accounts of the fires. It gives the warden excellent training and keeps him on the alert as regards fires in his district. From the use of these reports Craig's office has unusually complete records on Illinois farm fires.

Because of this system of reporting, the Illinois Fire Marshal's office—which is maintained by a special tax on fire insurance companies—is in better position to render accurate fire reports to the organizations that support it.

The present Illinois program is a child of the war. Its origin was in the program of civilian defense. However, the program does make an excellent nucleus for post-war fire prevention organization in the rural areas of the state.

Already farm advisers are listing in their publications the fire-fighting resources of the areas they serve. For the first time many farmers are getting some concept of the inadequacy of their protection against fire losses.

The farmers are becoming "fire conscious" and many of them will want to organize permanent fire protection districts—a procedure made possible under an Illinois law for that purpose.

Craig would like to see a paid fire fighter in every Rural Fire Protection district. This "paid" worker would be equipped with a Pumper and Booster Tank and be trained as is the present volunteer warden. He (the paid worker) would be responsible for the condition of the equipment. At an alarm he would be aided by the volunteer farm wardens and trained farmers.

The Illinois Fire Marshal believes that such a scheme will be possible because of the great potential of trained fire fighters that will be available in postwar days. Men trained as firemen for various ordnance and other war plants, retired city firemen, and men trained in the military and naval services will all be available.

Post-War Plans

The district school will play a great part in Illinois post-war plans. It is hoped that the State Superintendent of Public Instruction will bring about a compulsory program of study in fire prevention for the farm children of the state.

The extensive system of paved and improved roads in Illinois has made it possible for most farms to be reached in a comparatively short time by motorized apparatus. Craig believes that the government can render a valuable post-war service by allocating to rural areas any surplus OCD fire fighting equipment after the war is over. This equipment can help make more effective rural protection.

The final person to be most considered in the Illinois program for both the present and the future is the individual farmer. If the farmer is made sufficiently "fire conscious" and has received some fundamental training in fire fighting, farm fire losses can be materially reduced.

The trained, fire conscious farmer will: (1) learn to look for fire hazards and know how to correct them; (2) know the basic principles of fire extinguishment; using simple equipment found on all farms; (3) learn the fundamentals of community co-operation, organization, and use of jointly-owned fire-fighting apparatus.

Craig has faith in the Illinois farmers. His faith is bearing fruit in this new program. He realizes that "fire-fighting and fire prevention" is a new phase of co-operative effort among Illinois farmers and that slowly but surely they will learn to work together on this program just as they have in their farm co-operatives of other types.

The State Fire Marshal's office is limited in what it can do. It is providing the basis for a commonsense, benefit-reaping program and for the first time in Illinois history the farmer is being made a partner in a state-wide fire prevention program. The success of the program in the final analysis "is up to the people in the local districts."

ILLINOIS STATE COUNCIL OF DEFENSE
CIVIL PROTECTION DIVISION
ARMORY BUILDING
SPRINGFIELD

CONFIDENTIAL REPORT

County of Perry
Township of Swanwick
School District 43
Date of fire 10/11, 1943
Hour of fire 3:00 o'clock P. M.
Name of owner Coal Company
Name of occupant
Post Office
Kind of structure (wood) (stone) (brick)
State explicitly whether occupied as dwelling, barn, shed, store, factory, etc.
Value of building, estimated.....$
Damage to building, estimated.....$
Insurance upon building.....$
Value of contents, estimated.....$
Damage to contents, estimated.....$
Insurance upon contents.....$
Timberland, Field and Crop Fires:
Timberland acres burned
Brushland acres burned 2
Field acres burned 7
Pasture acres burned
Crops (kind) acres burned
Other

Give here reports of fires other than listed above, such as automobiles, boats, bridges, stacks, fences, livestock, etc.
Kind of property
Value of same, estimated.....$
Damage to same, estimated.....$
Insurance upon same.....$
Cause of fires
(If lightning caused fire, state whether building was rebuilt)
Fire apparently was started by match or cigarett being thrown from car driving along highway.
Remarks:
(Show deaths and injuries as well as other remarks)
Signed: Britain Ogilvie
Address: Swanwick, Illinois
School District: 43 Township: 44

IMPORTANT: After every fire that occurs in your district you are to submit the confidential report to the Springfield office of the Illinois State Council of Defense.

Form For Reporting Fires To State Council of Defense.

Battalion Chief Gill Promoted

Battalion Chief Charles A. Gill, a veteran of thirty-nine years in the Philadelphia, Pa., Fire Department, was elevated recently to deputy chief engineer.

Chief Gill joined the department on March 18, 1905. He became a lieutenant on May 17, 1918, a captain in 1925, and a battalion chief in 1936.

For a time Chief Gill served as acting chief of the department.

When Discharge of Municipal Firemen is Legal

By LEO T. PARKER

Attorney at Law, Cincinnati, Ohio.

It is true that municipal firemen may be discharged for valid reasons. And, also, it is established law that for a discharge order to be legal various valid laws must be complied with and no law, nor public policy, can be violated. The matter of "public policy" is important.

Modern courts recognize that adequate fire protection is a thing *not only* of local concern, but in which the general public has a vital interest. The owners of property and the general public are not the only ones affected by legislation for fire protection. There is a vast army of men employed in that occupation, which is obviously fraught with hazards uncommon to many other callings.

Therefore, in the interest of the public, firemen are entitled to receive adequate compensation for their services, commensurate with such hazards. Otherwise, few men would seek that avenue for a livelihood. The protection of life and property from fire conserves the resources of the country, and is, therefore, a matter of public welfare.

In view of these recognized facts exercise of "public policy" rule tends to prevent indigency, with its corresponding burdens on the public, and to maintain the strength and health of the citizens. Public policy, therefore, is a basis for prevention of illegal discharge of firemen; elimination of unreasonably low salaries; payment of pensions as an inducement to enlist services of competent persons to act as city firemen; and declaration of contracts and agreements made by firemen as void and ineffective, where such contracts and agreements are against public policy.

Cannot Reduce Legal Salary

Recently, a modern higher court held that a public officer, as a municipal fireman, cannot "estop" himself from claiming his statutory salary by agreeing to accept or accepting less than such salary. In other words, according to modern higher courts a fireman *can collect* from a municipality the *full* amount of salary to which he is entitled by law, irrespective of a contract in which he agrees to accept less than the lawful salary particularly if he makes such contract to avoid being discharged.

For example, in Morrison v. City of Fort Worth, 155 S.W. (2d) 908, it was disclosed that the Legislature of Texas passed a law fixing minimum wage scales and working hours for firemen. Such act provides a minimum wage scale of $150 per month for firemen in cities of more than 75,000 inhabitants, and provides certain working hours for firemen and pay at the rate of "time and one-half" for overtime work.

A city and its firemen entered into a written contract to the effect that the Budget of the City had not provided for funds to pay members of the Fire Department any compensation in addition to what they were receiving, that if the city would comply with the state law it would be necessary to make a very substantial reduction in the force now employed in the fire department. It was further provided that in consideration of the city continuing the present number of employes in the fire department the firemen agreed to "waive, relinquish and release and discharge" the city from the payment of any additional compensation or other rights and privileges that may arise under the provisions of the above mentioned state law which fixed the minimum salary for firemen.

A fireman who signed the above contract was being paid a salary of $125 per month. He drew such salary for several years. He died and his surviving widow, since remarried, brought suit against the city asking for the difference between the salary paid to him after the effective date of the state law and the minimum salary provided by the law. The lower court held that the city was not liable because the fireman had signed the above mentioned contract. However, the higher court reversed this verdict and established the law that a fireman cannot make a valid contract with a city to accept less than the salary specified by state laws. This court said:

"Regardless of the question of authorities, we think it is the law that a public officer cannot estop himself from claiming his statutory salary by agreeing to accept, or by accepting, less than the salary provided by law."

Also, see George v. City of Danville, 42 N.E. (2d) 300, reported June, 1942. In this case it was shown that a state law provides that the salary to be paid to a fireman in any municipality with 25,000 or more inhabitants shall be not less than one hundred and seventy-five dollars per month. A meeting of the city firemen was called at the request of the corporation counsel. At this meeting the corporation counsel requested the firemen to sign an agreement wherein they consented to accept for the ensuing fiscal year, salaries less than the statutory minimum. The firemen were told at this meeting that unless they executed the proposed agreement it would be necessary to discharge twenty-five members of the department.

In holding the contracts void and that the firemen could recover from the city the difference between the salaries received and specified by the state law, the court said:

"It cannot be controverted that it is the public policy of this state that adequate fire protection should be provided by every municipality and it must be assumed that the General Assembly determined that such protection could be provided *only* if firemen were assured of compensation commensurate with the the hazards inherent in their work so that capable men would be attracted to the job."

Therefore, it is quite apparent that although a city fireman is threatened with discharge he is not responsible for contracts and agreements that he makes in violation of state laws and for the purpose of avoiding being discharged.

Extra Payments Valid

Another important point of law is that modern courts hold that a fireman who has rendered services in addition to those stipulated in an express salary contract can recover therefor where the services rendered were performed at the request or with the knowledge or consent of municipal officials. In other words, acceptance of the services by the municipal officials raises the presumption that such services were given by the firemen in expectation of extra payment. This rule of law is applicable, although such services are rendered contrary to law.

In other words, where a county or municipality receives benefits under a contract which is illegal because it was not made in conformity with the Constitution or statute of the state, or charter provision of the city, it will be held liable on an implied contract for the reasonable value of the benefits which it may have received. While such contracts are void the courts hold that common honesty and fair dealing require that a county or municipality should not be permitted to receive the benefit of money, property, or services, without paying just compensation therefor.

For illustration, in City of Galveston v. O'Mara, 146 S.W. (2d) 416, it was disclosed that a state law provides that members of a fire department could not be required to be on duty for more than six days per week. The legal question arose, as follows: In view of this law, are firemen entitled to recover extra payments for the time they render service above the six-day week period?

The counsel for the city contended that the services for which the firemen sought recoveries were rendered in violation of a state law which prohibits a fireman from working seven days a week and that therefore they cannot recover.

In holding the city bound to pay for the extra service, the higher court said:

"It is the established rule that one who has rendered services in addition to those stipulated in an express contract can recover therefor where the services rendered were performed at the request

or with the knowledge or consent of the other party."

Law of Forced Resignation

Modern higher courts have established the law that whenever a member of a municipal fire department is severed from his employment by coercion the severance is effected not by his own will but by the will of a superior. A person who is forced to resign is thus in the position of one who is discharged, not of one who exercises his own will to surrender his employment voluntarily.

Obviously, therefore, a fireman who is forced by coercion to resign must comply with laws relating to discharge. Otherwise he cannot expect a court to authorize his reappointment.

For instance, in Moreno v. Cairns, 127 Pac. (2d) 914, it was shown that a city charter contains a clause which requires any city employe claiming that he has been unlawfully suspended, laid off or discharged to file a written demand for reinstatement with Board of Civil Service Commissioners within 90 days following the date of the alleged unlawful discharge.

An assistant fire chief resigned July 1, 1939. After expiration of the above mentioned 90-day period he appealed to the court to authorize his reappointment on the grounds that he had under duress, misrepresentation, fraud and undue influence, been forced against his will and desire, to resign from his position. Although he was deprived of all pension rights the higher court refused to hold in his favor, saying:

"He cannot escape from the dilemma, however, that the coercion attending his nominal resignation, while affording him a ground for reinstatement, also identifies that resignation as an actual involuntary severance from employment tantamount to an unlawful discharge of section 112½ of the city charter and the ninety-day period would run from the date of such unlawful discharge."

Various higher courts have held that when a fireman commits an act which, according to valid laws, must result in his discharge from service he is automatically discharged. Therefore, special agreements between the fireman and municipal officials are not valid or effective.

For illustration, in Grant v. City of Topeka, 121 Pac. (2d) 224, reported February, 1942, it was disclosed that a state law provides for the creation of firemen's pension fund in all cities. Any member of the fire department who has attained the age of fifty years and has served for twenty years in a municipal fire department may retire voluntarily and shall be entitled to claim and receive a pension of $75 per month.

A fireman who was 57 years old had begun his employment as a fireman in 1912 and he had served in that capacity continuously for 26 years. While he was actively employed as a fireman on the force of the fire department he tendered his resignation to the city. He demanded payment of a pension. The city refused payment and alleged that the fireman had been discharged from his job as a fireman because of habitual drunkenness during the time he was in the performance of his duties as a fireman for the city.

Fireman Signed Pledge

During the subsequent trial, testimony was given that the fireman had filed with the fire chief a pledge, pledging himself to abstain from the use of intoxicants and agreeing to 'immediately tender my resignation to the chief of the department' if he violated the pledge. Later when the fireman failed to abstain from intoxicants the assistant fire chief told him "to go home and report to the Chief in the morning." The following morning the fire chief told him that his services with the department were over. In holding the fireman not entitled to pension, the higher court said:

"Neither the statute, the city ordinances, nor the bylaws conferred power upon the fire chief to make an agreement that appellant (fireman) could resign and receive a pension if he breached his pledge to abstain from the use of intoxicants. The legal consequence attached to appellant's delinquency was to be discharged, and the duty to discharge him under such circumstances was one the fire chief could not avoid."

Free Speech Defined

It is well known that the Constitutional rights of all citizens include "free speech" and the right to express thoughts and opinions. However, the reasonable limitations of these Constitutional rights may be provided by state laws, city ordinances anad city charters.

For example, in McCrory v. City of Philadelphia, 27 Atl, (2d) 55, reported July, 1942, it was shown that a member of the Bureau of Fire of the Department of Public Safety was charged with political activity in that he wore a political badge or banner and solicited votes on November 4 and November 7, contrary to provisions of the City Charter. The charter clearly provides that no employe shall "take any active part in political management or in political campaigns, or use his office to influence political movements."

Fireman Ordered Dismissed

A hearing was had before the Civil Service Commission, testimony was taken and transcribed, and the fireman was ordered dismissed. On his petition a further hearing was held, testimony was retaken and transcribed, and the commission filed an opinion, holding that he was guilty of the charge and confirming its prior order of dismissal. The fireman then appealed to the court alleging that the testimony produced against him was not sufficient, as a matter of law, to show that he was guilty of illegal political activity, and that the commission abused its legal discretion in removing him from his position. The fireman further alleged that the charter is invalid because its provisions violate the Constitution which gives all citizens the right to free speech and communication of opinions.

During the trial testimony was given that the fireman had approached various persons, acquaintances and strangers, and urged them to vote Democratic at the impending election.

Higher Court Approved Discharge

It is interesting to observe that the higher court approved discharge of the fireman, and said:

"The act is intended to prevent political activity or taking an active part in a campaign or in the management of a campaign by employes of the municipality. It relates to personal activity, and does not in any way conflict with the Constitutional provision in relation to 'the free communication of thoughts and opinions,' or the right of the citizen to 'freely speak, write and print on any subject.'"

Air Raid Wardens Turned Auxiliary Firewomen

On the basis that there might come a day when regular and auxiliary firemen might need a hand in extinguishing fires started by enemy bombs, these daytime air raid wardens of Company 11 in San Francisco's Mission District decided to get a little fire fighting training themselves. Here they are receiving instruction on how to operate one of the city's 600 pieces of auxiliary pumping equipment. Lieutenant Thomas Ryan of the Fire Department, the instructor, is at right. About forty women have taken the course in this one company.

Roi B. Woolley Joins Editorial Staff of FIRE ENGINEERING

Roi B. Woolley

ROI B. WOOLLEY, until recently Chief of Fire Coordination of the Office of Civilian Defense in Washington, D. C., has joined the staff of FIRE ENGINEERING as Assistant Editor. He will also serve as Assistant Editorial Director of WATER WORKS ENGINEERING, SEWAGE WORKS ENGINEERING and ELECTRICITY ON THE FARM, other publications issued by the Case-Shepperd-Mann Publishing Corporation.

Mr. Woolley has long been identified with the fire service, including several years as Assistant Chief of the Larchmont, N. Y., Fire Department.

He was one of the founders, and was for four years president of the Westchester Fire Chiefs' Emergency Plan, a mutual aid organization. The Plan has been a pattern for cooperative fire defense units in states from coast to coast.

In addition to his duties as Chief of Fire Coordination, while located in Washington, he served as fire defense officer of the Washington Military Area, which includes parts of Maryland and Virginia, having been appointed to that post by General Ulysses Grant III, then in charge of the protection branch of the OCD.

The Coordination Unit of the Office of Civilian Defense, under Mr. Woolley's direction, was instrumental in bringing about the legalization of mutual aid in the majority of states, as well as in securing the appointment of coordinators or administrators to direct reciprocal statewide fire fighting operations. Another accomplishment of this office was the taking of inventories of fire fighting equipment in various states. As a final measure, the federal fire forces of the Army, Navy and Coast Guard were brought into closer coordination with the country's municipal fire services through the efforts of Chief Woolley.

He served as a member of the Federal Fire Council and was appointed to represent the Fire Defense Section of the OCD on the National Fire Wastes Council.

At present Chief Woolley is chairman of the Committee on Communications of the International Association of Fire Chiefs, and represents the nation's fire services on the Radio Technical Planning Board established by the Federal Communications Commission.

Chief Woolley holds membership in many firemanic organizations, including the International Association of Fire Chiefs, the International Municipal Signal Association, the New York State Fire Chiefs Association and the Volunteer Firemen's Association of the State of New York. In addition to his association activities, Chief Woolley has lectured on the fire service in many institutions of higher learning including New York University, Manhattan College and Rutgers University.

He joins FIRE ENGINEERING not as a stranger to the readers of this journal, but as an old friend, having conducted the "Watch Desk" and "Warfare" columns in this publication for several years.

His other literary contributions in the fire service are many, and include such fine instructive pamphlets as the one recently issued by the International Association of Fire Chiefs entitled "The Handling and Transportation of Explosives."

Practical Training for Auxiliary Firemen

By FRED SHEPPERD
Editor, FIRE ENGINEERING

THIS is the final installment of the series of articles on "Practical Training for Auxiliary Firemen." Herein are discussed overhauling operations.

Q. What is meant by overhauling after a fire?

A. Overhauling is the procedure followed to make sure that all fire is out, to locate any hidden fire should such exist, and to extinguish same. Overhauling includes the working over of the premises and contents after the fire is under full control to prevent further damage from water and fire.

Q. In what way does overhauling differ from salvage work?

A. The chief difference between overhauling and salvage work is that overhauling is principally carried out to prevent the rekindling of the fire and further damage to the building, as well as the contents, while salvage work is designed principally to save property from water and fire damage.

There is some overlap in salvage and overhauling operations, such as cutting floors to drain water, draining water from floors, saving materials exposed to further water damage, etc.

Q. What steps are usually taken when overhauling after a fire?

A. When the fire is subdued sufficiently to permit men to make the floor, shut off the line and make sure that the floors are well ventilated.

Make a quick survey of the building to make certain that the fire is not getting away through different channels by which fire is likely to travel.

Examine all light and air shafts, pipes, speaking tube and wire recesses, belt holes, chutes and floor openings, and if the extent of the fire demands it, the adjoining building, especially where floor and roof beams rest on party walls. This survey must be made thorough and complete by officers and men when they receive orders to do such work.

Overhauling of Cotton Bales Can Best Be Done on the Street. Concealed Fires Make Necessary the Opening of Bales.

A Floor, after a Fire, before Overhauling Operations. Debris Is Moved Toward Walls when Overhauling.

Q. What is the next step?

A. If the extent of the fire has been large, it will be necessary to go systematically through damaged materials. Clear a space and work thoroughly through debris by shifting it to the cleared space, always working on a cleared floor. Use no water from hose line in wetting down unless size of fire remaining requires. Instead, fill fire buckets, bath tubs, pails or other utensils with water and dip the burning materials into the water.

Q. In overhauling after a fire on a floor on which a great deal of debris is encountered, should the firemen work from the center of the floor out, or from the walls towards the center?

A. The men working over the debris should start at the walls, clearing a floor space and moving the debris checked over toward the wall. A clean floor should always be maintained so that there will be no chance of any burning material being overlooked.

By working from the wall out, a safer procedure is followed. The weight is being continually moved toward the

wall, where the greatest strength of the floor still remains.

Q. In overhauling on a floor heavily laden with debris, what is the principal danger?

A. The principal danger is the possibility of a floor collapse due to the beams being weakened by fire, and the added weight of the water absorbed by the debris.

Q. Does the draining of water from the floor by cutting holes in the floor or otherwise, serve to reduce this hazard?

A. Yes. Every gallon of water removed from a floor by drainage means approximately eight pounds less load on the floor.

Q. What is the particular duty of a commanding officer when overhauling work is being carried out after a fire?

A. The duties of a commanding officer at overhauling after a fire are: looking after the safety of the men; directing work of overhauling so as to accomplish the work as quickly as possible and at the same time with as little damage as possible.

In looking after the safety of his men the officer should be sure that the premises are safe for operation before having men overhaul. He should also see that heavy objects are moved toward the wall or to other points where floor supports are uninjured so as to eliminate possibility of floor giving way under the concentrated weight. He should also see that the water is drained off floors in such a manner as to do the least damage to merchandise on floors below.

Q. What steps should the overhauling crew take to make sure that no concealed fire remains?

A. In addition to working over the debris after a fire, window frames should be opened up, ceilings pulled and walls opened where there is possibility of fire having entered. Thorough inspection of the fire floor as well as floors above and below should be made to guard against rekindle due to concealed fire.

Q. What is the duty of the commanding officer relative to protecting valuables, which may have been involved by fire, when overhauling operations are being performed?

A. The commanding officer should be on the alert to prevent the removal of valuable objects either by civilians or by members of the department. Officers must insist upon men working in one place and not permit them to wander about building. If a salvage corps, or salvage officers, are at hand, this responsibility should be delegated to them.

Q. When opening up a concealed space, during overhauling operations, what signs may be considered as proof that the fire has not reached the concealed space?

A. The absence of any blackened or scorched surfaces or rubbish, or the presence of cobwebs, will be sufficient evidence that the fire has not reached the point in question.

Q. What are the principal steps followed in overhauling a bedroom, or bedrooms after fire?

A. If the fire has been in a bedroom, or if it has extended to another room or two, care must be exercised to avoid unnecessary damage to articles of value which may or may not have been involved by the fire.

Utilize wash tubs, sink or bathtub partly filled with water to dip burned or smouldering bedclothes or wearing apparel in; take the bed apart, stand it against the wall or pass it to another room. This provides room to rip out any woodwork that may be necessary, or to open the ceiling or side walls; it also provides room to pass the contents of the other rooms damaged by fire to the first room or hall.

Q. How are overhauling operations performed following a fire of considerable extent and involving more than one floor, in a building stocked with paper, rags, hay, vegetable fiber or fabric material?

A. Such an overhauling job is a difficult one because of the extensive overhauling required. This merchandise is generally baled, bulky, heavy, tiered up from floor to ceiling and with little space left for passageway.

The necessity for making room to do the work in such a case is evident and it will probably be necessary to pass enough of the material out of the build-

Excess Water Used in Firefighting Operations Must Be Conducted out of the Building Through Channels where it Will Do the Least Damage.

Fire-Weakened Floors Plus Water Load May Cause Collapse of Building. Five Floors Dropped into Basement at This Fire.

Concealed Spaces Must Be Inspected for Concealed Fire during Overhauling Operations. Here Lath and Plaster Is Being Removed for Further Inspection after Evidence of Concealed Fire Was Encountered.

ing to give room to start the overhauling without causing additional loss or damage. If working above the first floor, use elevator or hoistway if serviceable, and window openings. Very often this sort of industry, or business, is carried on in buildings old in style and construction and it may be found practicable to cut the window openings of the floor on which the force is working down flush with the floor. By so doing, the necessity of lifting the bales, etc., up and over the window sill to toss them out of the building is eliminated.

N.B.F.U. Urges Purchase of Fire Apparatus Now

The following statement, in the form of a Special Bulletin was issued on April 5 by the National Board of Fire Underwriters:

The war is not over. This should be a daily admonition to every American, but particularly to those citizens whose duty it is, as public administrators, to provide for the fire service of our cities and towns.

With the imminent danger of fires from bombing there was the usual panicky urge in all parts of the country for more fire apparatus. This of necessity was restricted and until the needs of the armed forces could be met few communities could obtain fire apparatus.

The imminent danger is past, but the need for new apparatus in the fire department of cities and towns is just as great now as during that period. It is the fire apparatus of the regularly organized fire departments which must be depended upon to prevent destruction to the industries still vital to the winning of the war. It is this apparatus which must be used to save the lives of people crowded into hotels, apartments, tenements and houses, and those in industries working under less than the normal safe conditions.

Even before the present emergency it was well recognized that much of the fire apparatus—the pumpers and ladder trucks—was becoming obsolete. It was built before experience could eliminate undesirable features of design or material. It was becoming more difficult and more expensive to maintain it. And, of even greater importance, few cities had the desirable amount of reserve apparatus.

Restrictions on the manufacture and sale of modern fire apparatus have been materially reduced. Today is the time to take action to properly protect lives and property. This year's budget should include a liberal allowance for pumpers and aerial ladder trucks, for hose, for gas masks, salvage covers, modern spray nozzles, and the many other pieces of equipment which a modern department needs. Thought should be given also to adding to and modernizing the fire alarm system.

Some of these may still be restricted, and probably none of them can be obtained on an "over the counter" delivery basis. This makes it all the more important that orders be placed now, for delivery at an early date.

As stated at the beginning of this bulletin, *The war is not over.* Provide now for your needs. Do not delay and do not consider this only in connection with post-war plans.

Navy Yard Fire Department Has Splendid Record

The fire department of the Washington, D. C., Navy Yard was organized and placed in service by Lieutenant Commander R. E. S. Boss on February 2, 1942. All officers are veterans of thirty to thirty-five years experience in the District of Columbia Fire Department. The other personnel were selected from volunteers of the surrounding suburban communities. The Yard Fire Department saved the government thousands of dollars during the last flood by keeping production going and the small fire loss can well be envied by other departments.

Chief of the Navy Yard Fire Department is Captain S. M. Gould, formerly of Engine Company No. 1 of the District of Columbia Fire Department.

A former member of the fire department, William Harrison DeWaters, Specialist Second Class, has been commended by the Chief of Naval Personnel "for courageous endurance and unselfish disregard of his own safety in extinguishing a conflagration on board an American Merchant Ship."

The vessel was carrying highly volatile supplies when she collided with another ship and fire broke out. The fire party of which DeWaters was a member, ignoring the hazards boarded the vessel and attacked the blaze, which raged for nineteen hours before being brought under control.

Grass Fires Sweep Military Reservation

Flames raging in five different areas swept over 2,500 acres of land and destroyed or damaged a number of abandoned farm buildings April 7, 1944, on the Pine Camp Military reservation near Watertown, N. Y.

Attributed to the dry conditions which prevail at springtime, the first of the fires broke out around ten in the morning and kept the sixty-three fire department and approximately 100 soldiers from Pine Camp busy for a period of more than twelve hours. One blaze burned over 2,000 acres of land between Antwerp and Sterlingville and levelled a number of buildings.

The military reservation covers an extensive area and one of the calls sent firemen and equipment on a twenty-five mile run to Sprague ville. Five buildings were destroyed at Lewisburg. The majority of structures involved in the fire were abandoned when the federal government took over the land and several were owned by civilians who had purchased them for salvage, Fire Chief Hugh V. Dillon of the Pine Camp unit directed the operations.

SANFORD D. DEWEY.

Underwriters' Laboratories' Booklet Issued

A thirty-two page souvenir booklet entitled "A Report of Fifty Years of Continuous Sefvice" has been issued by the Underwriters' Laboratories, Chicago, Ill. The book summarizes pictorially the work of the Laboratories over the last fifty years.

Some of the Members of the Washington Navy Yard Fire Department

In the front row, left to right, are Lieutenant D. J. Murphy, Captain L. T. West, Chief S. M. Could, Captain J. R. Moore, Captain M. Lamp and Lieutenant F. DiVincenzo. In the back row, left to right, are Privates C. DiVincenzo, C. C. Gasch, J. D. Michaliga, D. W. MaGaha, and T. F. Williams.

Efficiency of the N.F.S.

Recent enemy air attacks on Great Britain have provided an opportunity of testing the efficiency of the National Fire Service, particularly in the Greater London area. It has been a test not only of practical fire-fighting, but also of an elaborate system of administration, communications, and control, which had not previously been tried out in battle.

The Fire Service was nationalized in the summer of 1941, and apart from the Baedeker raids, the recent attempt by the enemy to switch the battle of Berlin to London is the first opportunity the N.F.S. has had of justifying its system of unified and centralized control.

The general impression is that the Service has come up to expectations. It is not possible to prevent fires being started, but the glows in the sky have rapidly disappeared and daylight has found the great bulk of appliances back in their stations and only a handful of pump crews turning over and cooling down debris and completing vital salvage operations. The fact that few fires have grown to major proportions and none has become a serious conflagration is the real guide to the success or otherwise of fire operations. Critical examination of the results achieved has given those responsible for the organization of the Service good cause for optimism.

A notable feature of the improved technique of the N.F.S. is the general adoption by the service of effective salvage methods which have greatly reduced damage from water and other injurious elements. Owners of valuable machinery, some of it irreplaceable during the war, have been agreeably surprised to find that their fears of irreparable loss were unfounded. Machines have been covered to prevent their being damaged, while everything that could possibly be salvaged has been removed to safety.

The scheme as a whole is operating smoothly. A vital part of the N.F.S. operational plan is cooperation with the Fire Guard organization. Under the new system innumerable fires are dealt with by the Fire Guards and only those beyond, or likely to be beyond, their control are reported to the N.F.S., with the result that the N.F.S. is much better able to concentrate its efforts where they are really needed.

New York Veteran Still Going Strong

He soldiered with Joyce Kilmer and boxed on Father Duffy's team in the "Fighting 69th" in the "First" World War, he's over age for the army and retired on pension from his civilian occupation, yet Staff Sergeant Andrew G. Hogstrom, 46, of Long Island City, New York, is still going strong as fire chief at a United States Army base section headquarters in England.

Andy Hogstrom did not realize back in 1917-18 that the quiet, unassuming Sergeant Kilmer, of headquarters company of the 69th Infantry Regiment, so soon to die in the mud at Chateau Thierry, would achieve world-wide fame as a poet and especially as author of the classic "Trees."

Nor could he have looked into the future to another World War when the War Department would honor the soldier-poet by giving his name to one of its largest embarkation areas at Camp Kilmer, New Jersey.

"He was just another guy, a swell fellow," said Sgt. Hogstrom. "Many times he gave me his poems to read. Once, in the Champagne sector, when I liked one particularly well, he told me to keep it. I lost it in Germany."

Needless to state, he wishes he had been more careful to preserve a manuscript poem of the now-famed Joyce Kilmer.

Hogstrom was just a few feet from the poet when he was killed.

"We lost a lot of good guys that day at Chateau Thierry," said the veteran.

Father Duffy was divisional chaplain with the rank of lieutenant-colonel and everyone went to him with his problems.

"He knew no creed and he took our troubles on his back," said Hogstrom. "The chaplain was also special service officer in those days and Father Duffy said I was one of his gang because I was on his boxing team."

Hogstrom also became friendly with Sergeant Hank Gowdy, first big league ball player to join the army. Hank was color sergeant of the 166th Infantry, composed of Ohio troops, and part of the 42nd (Rainbow) Division with the 69th. Two majors in Hogstrom's regiment were William J. "Wild Bill" Donovan, later colonel and assistant Attorney General of the United States, and Alexander Anderson, later Major-General. The divisional commander was a young brigadier-general, Douglas McArthur.

Wounded on the right arm by shrapnel at Chateau Thierry, Hogstrom was again hit by shrapnel, this time on the right ankle, at the Argonne and captured. He was taken as a prisoner with the retreating Germans, but after a month escaped, returning to the American lines two days before the armistice. He was decorated by the French Government for this feat.

After 19 months in France and Germany, he was discharged in May, 1919. He re-enlisted in 1923 and did a three-year hitch with the tanks. Andy volunteered in January, 1942, and got back his old serial number, 89646, which is low these days when the numbers run up into eight digits. When the army was discharging soldiers over 38 years old he elected to stay for the duration.

Former N. Y. Fireman

Sgt. Hogstrom retired as a fireman from the New York Fire Department after twenty years service. His brother, Lieutenant Peter Hogstrom, U. S. Navy, is also retired from that organization, having served as chief engineer of the fire boat "New Yorker." Another brother, Harold Hogstrom, is a New York policeman.

General Alarm Fire Threatens Waterfront Area of Portland

Firemen using an aerial ladder are shown battling the $100,000 general alarm blaze which for two hours threatened to wipe out a large part of the waterfront area at Portland, Maine, on April 14. Coast Guard fireboats helped protect dock structures during the blaze which swept a four-story warehouse.

Denies Danger in Approved Resuscitators

The late Professor Yandell Henderson wrote an extensive paper entitled "The Return of the Pulmotor as a 'Resuscitator': A Back-Step toward the Death of Thousands," which was published in the magazine "Science" for December 24, 1943. He raised the question of the safety, efficacy, and dangers of mechanical resuscitators and particularly charged the Council on Physical Therapy of the American Medical Association with inefficiency, unfair tactics and professional incompetence by accepting the E & J Resuscitator.

In a statement relative to this article which appeared in the April 28, 1944, issue of the same journal, the Council on Physical Therapy of the American Medical Association makes the following comment:

"Professor Henderson claimed that mechanical devices for artificial respiration known as resuscitators are essentially identical with a device formerly known as the pulmotor. The latter device, he asserted, was discredited by a Committee on Resuscitation from Mine Gases (about 1912), of which he was a member. The council does not propose any defense of the pulmotor, although he, as a member of the council at the time when that body first undertook to investigate resuscitators, was, of course, aware that the modern devices are essentially different from the pulmotor since they incorporate mechanisms for the control of pressure. In the resuscitators accepted by the council, dangerous pressures are not produced and evidence is available to indicate that the maximum positive pressure of 13 mm of mercury created in them is less than that which a human being can voluntarily produce in his own lungs without discomfort.

"Professor Henderson wrote, 'A delay of even a few seconds while apparatus is being brought and applied may lose a life.' With this statement the council is in full accord. The Council has urged that attempts should be made to train every competent person in the proper method of administering manual artificial respiration and that such methods should be applied at the earliest possible moment, even when awaiting the arrival of official agencies with such apparatus as they may have available. Manual methods should be applied whether those administering first aid are expecting the arrival of either an inhalator or a resuscitator.

"Both the title and the body of the article imply that the use of resuscitating devices will destroy life 'by the thousands.' The council has made repeated diligent efforts to ascertain instances in which loss of life or injury has been caused by the resuscitators that have been accepted. Not a single instance has been discovered in which either the opinion of a competent clinician or a post-mortem report would support the contention that loss of life or injury occurred due to the use of an accepted resuscitator.

"The original reports mentioned by Professor Henderson appeared some thirty years ago and concerned devices the use of which has long since been discontinued. Again and again he was requested to submit a single authentic instance of loss of life because of the use of an accepted resuscitator, but not a single instance was submitted by him.

"The available evidence indicates that by far the great majority of those well informed regarding inhalators, resuscitators or other devices in the field of physical therapy have confidence in the objective attitude and integrity of the Council on Physical Therapy of the American Medical Association."

Four Die in Six-Alarm Refinery Fire

Four persons died and two were injured by a naphtha explosion and resulting fire that damaged the Atlantic Refining Company's Point Breeze plant in Philadelphia, Pa., on April 12. All six of the men were workers in the plant.

Workmen were dismantling a cracking still on Farm No. 3 for its customary periodic cleaning, when the explosion occurred. In a nearby pumping station, measuring about twenty-five by thirty-five feet, the highly volatile naphtha was being transferred to a dispersal tank from a storage unit. Other tanks in the station contained high test gasoline.

Vapors always present in the transferral operation were ignited, exploding in a blast that flattened the station walls, spread to the still where three of the men were working, and then caught in six nearby storage tanks.

Because the plant has its own fire fighting department, the city department was not called until 11:16 a.m., at which time the fire had gotten out of control; someone outside the plant pulled Box 5146 at 32 Street and Maiden Lane. The second alarm was sent in at 11:32 a.m. the third at 11:35 a.m., the fourth at 11:39 a.m., the fifth at 11:56 a.m. and the sixth, a special call, at 12:11 p.m. This brought to the scene of the fire twenty-four engine companies, four truck companies, one rescue squad, one fireboat, five battalion chiefs, one deputy chief and the chief engineer, as well as ambulances from many hospitals, eleven police surgeons under First Assistant Chief Surgeon William A. Ryan, civilian defense units, the Salvation Army and the Second Alarmers Association.

The area where the explosion and fire occurred is covered with tanks, stills and pipes, which made it difficult and dangerous for the fire department.

After an heroic two-hour battle, the city fire department under the leadership of Chief William Cowden, was able to knock down and put out the fire in the storage tanks and still, but the fire in the pump house still burned.

Rear Admiral Milo F. Draemel, Commandant of the Fourth Naval District, ordered a foam truck and a trailer truck with five tons of foam powder from the Philadelphia Navy Yard Fire Department, under the leadership of Chief J. J. Weiss and Assistant Chief Edward Smith. Chief Weiss, noting that the water pressure was low on the water mains of the yard system, ordered lines laid from pumpers to increase the pressure at the foam generators.

For Once Fire Fighters Have Too Much Water

A lumberyard on the edge of a Wichita, Kansas, residential section burned to the ground or to the water, in the midst of the city's worst flood in years. At the left firemen are trying to lay a hose line to the fire which can be seen in the background. **Right:** Drowned-out vehicles stalled in the business district block the path of a fire truck trying to reach the scene of a blaze.

Lansing Hit by Mysterious Fire

The fourth mysterious fire in three weeks early on April 24 caused about $140,000 damage to a warehouse building and contents in Lansing, Mich.

At 1:20 a.m., ten minutes before the alarm was turned in, firemen received an anonymous phone call.

"I am the firefly," said the mysterious caller, "You can watch for a big fire tonight."

The buildings, two large frame structures, former lumber yard buildings, were destroyed. They were occupied by the D. V. Kester Farm Implement Company; the Reniger Construction Company, the Michigan Sheet Metal Company, and by seven trucking firms.

About $40,000 worth of farm implements, fourteen large trucks, thousands of dollars' worth of building equipment and a large store of sheet metal supplies were ruined in the blaze.

The building occupied by Swift and Co., packers, was damaged by smoke. The eight fire companies on the scene succeeded in keeping the fire from spreading to the Abrams Aerial Instrument Company, next door.

Levi Rogers Appointed Superintendent of Firemen's Home

Levi L. Rogers, past president of the New York State Volunteer Firemen's association, took office as superintendent of the State Firemen's Home at Hudson, N. Y., on March 15, 1944, succeeding the late William J. Coleman. Mr. Rogers is a resident of Potsdam, N. Y.

The firemen's home includes a hospital, residence for the superintendent and employees, a museum and large farm. Mrs. Rogers has accepted appointment as matron.

Mr. Rogers has been an active member of the Potsdam fire department for thirty-one years, and from 1921 to 1925 served as chief. He was president of the Northern New York Firemen's association in 1926 and since 1921 has held an elective or appointive office in the state firemen's association which includes 1,800 volunter fire departments with a membership of more than 80,000.

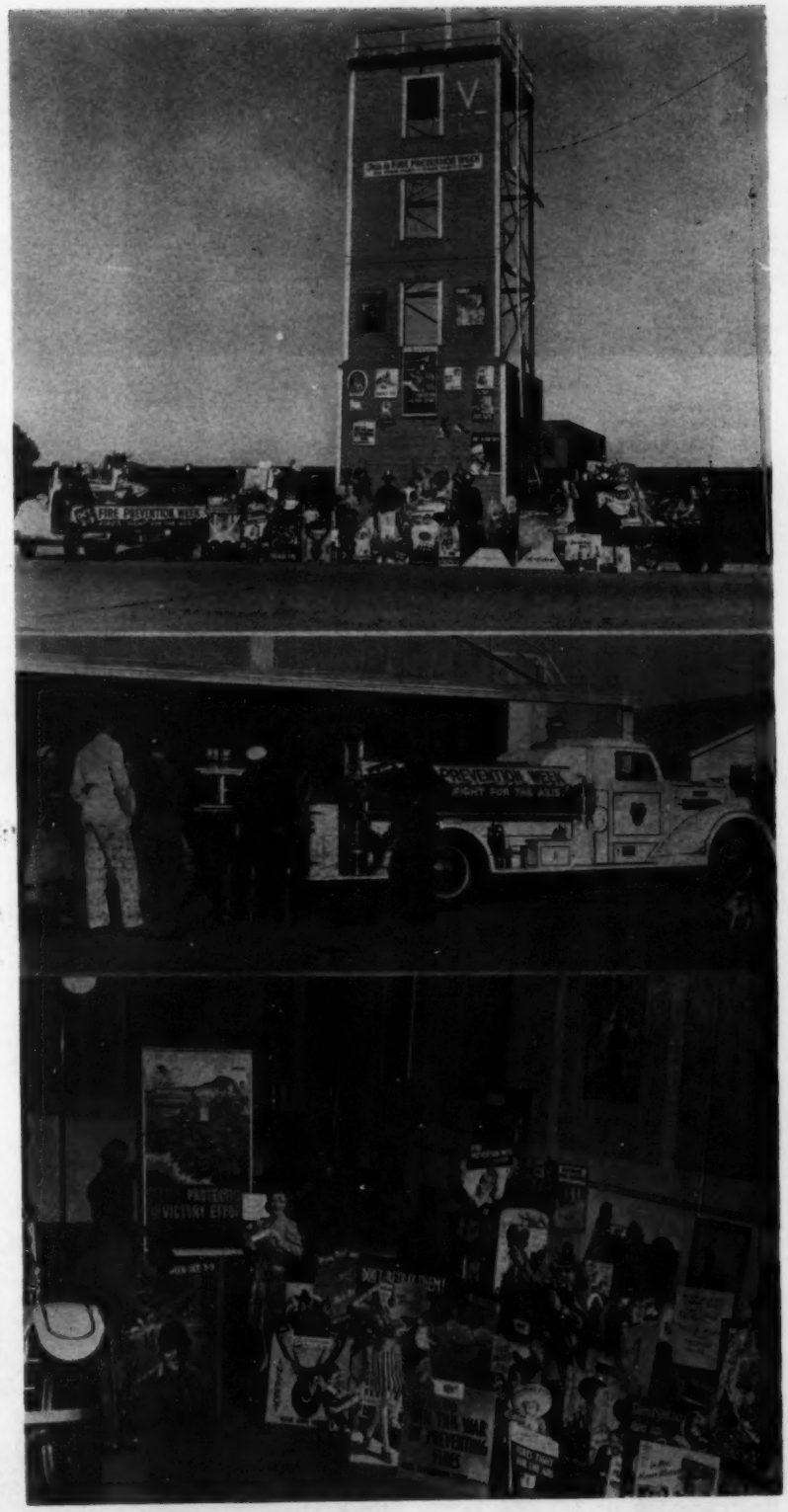
He was president of the state association in 1941 and 1942 for the two terms allowed under the constitution and last year was elected to a five year term as a trustee of the state home. Mr. Rogers resigned as trustee to become superintendent and the vacancy will be filled in June when the executive committee meets.

Mr. Rogers is vice president and treasurer of the Sanford Fire Equipment Corporation of Syracuse. He will retain his holdings in the company and continue on the board of directors but will withdraw as an active officer.

The Firemen's Home at Hudson is located on the famous river and has a farm of over 300 acres. Its museum includes many ancient fire fighting relics, some dating back to the days of George Washington.

The appointment of Mr. Rogers makes history for the Potsdam volunteer department. Two of its members, Mr. Rogers and the late Mr. Coleman, have served in similar capacities during their careers and it is the only organization which has had two associates occupy all of the various positions.

SANFORD D. DEWEY.



Fire Prevention Activities of the Fort Collins, Colo., Fire Department

As a project for Fire Prevention Week, the men of the Fort Collins Fire Department went into the Fire District and gathered some 300 window cards, advertising everything from Camel cigarettes to toothpaste, and painted fire prevention slogans thereon. Some of them are still being displayed by merchants of the city. The top photograph shows some of the posters displayed at the fire department drill tower. The bottom two show the men at work on them at the fire stations.

Fire extinguisher drills were held in every mercantile and industrial establishment in the city, as well as at the Army flying school.

The Fort Collins Fire Department, under the leadership of Chief T. P. Treadwell, has won first place for thirteen consecutive years in Colorado for their fire prevention work and have received a high rating nationally.

Portsmouth Squad Helps at Navy Yard Disaster

First aid squad of the Portsmouth, Va., Fire Department which was credited with helping save several lives at recent Norfolk Navy Yard ship fire where fifteen persons were killed and many injured.

Fire Sweeps Hamtramck Department Store

Fire of undetermined origin early on April 25 virtually destroyed the interior of the department store of Neisner Brothers, Inc., in Hamtramck, Mich.

In answer to three alarms, all available Hamtramck Fire Department equipment, aided by the Highland Park fire companies, fought the blaze for four hours.

Firemen said the blaze apparently started in a stairway and swept rapidly upward into a large storeroom on the second floor. The flat roof of the two-story brick building collapsed under the weight of water and later the second floor also fell.

Home of F. W. Woolworth Destroyed

The boyhood home of the late Frank W. Woolworth, five and ten cent store founder, located on the Great Bend-Champion road in the vicinity of Carthage, N. Y., was destroyed by fire on April 6, 1944.

The eight-room, two story farm house was formerly the property of Mr. and Mrs. John Woolworth, parents of Frank. The family moved there from Rodman and the five and ten cent store magnate spent a portion of his early life in the house. In later years he erected the Woolworth Memorial church in Great Bend in tribute to his parents.

SANFORD D. DEWEY.

Freak Accident Causes Serious Fire

A freakish, minor railroad accident on the Belt Line on San Francisco's waterfront recently touched off a series of events that culminated in a $100,000 fire that endangered explosives, other Army supplies and a large illuminating gas storage tank. Three alarms and several special calls were sounded.

It all began when a freight car, shunted by a State Belt Line locomotive, was derailed and struck a refrigerator car. The ice car toppled over on its side and crashed into a power pole, causing a large transformer in the basement of the nearby standby substation of the Pacific Gas & Electric Company to short circuit. The sparks resulting ignited oil which had seeped onto the floor in the substation, as large as a four-story building.

From there the blaze communicated to the basement, where thousands of gallons of oil used to feed the generators were stored. Flames shot 100 feet into the night air, accompanied by showers of sparks like tracer bullets in an air raid and the roar of exploding oil drums.

As firemen, augmented by men from the Army and Coast Guard Fire Battalion, chopped through concrete to get at the blaze, their first streams turned to huge clouds of steam as the water hit the fire. So hot and thick was the steam that the men were driven back time after time.

In front of the building a manhole cover rocketed into the air from the force of an underground explosion and narrowly missed several firemen.

While firemen fought the flames, Army and Navy crews arrived to remove two cars of explosives, fifteen amphibious vehicles and other supplies stored near the substation. Military police aided city police in handling large crowds attracted to the scene.

Short circuits caused by the fire disrupted electric service along the waterfront, the Marina and downtown sections.

BOB GREENOCK

Fire Protection of Plum Brook Ordnance Works

The fire department of the Plum Brook Ordnance Works, at Sandusky, Ohio, consists of forty-five men, four captains, an assistant chief and a chief. Apparatus consists of two 500-gallon pumpers, two 500-gallon tankers, one chief's car and two service cars for inspection work.

There is a complete Gamewell fire alarm system with the latest central automatic switch control board housed in its own building. There are ninety-four street and master boxes and 367 auxiliary alarm boxes.

Two hundred and sixty-two fire hydrants protect the ordnance plant. Sprinkler systems have been installed in 111 buildings and there are 2,000 fire extinguishers of all types around the plant.

All sprinkler systems are equipped with mercury alarm systems direct to a master fire alarm box. In other words when a sprinkler head flows, the master fire alarm box is operated, communicating the alarm to the alarm headquarters.

Automatic fire detectors are installed in the attics of large administration buildings.

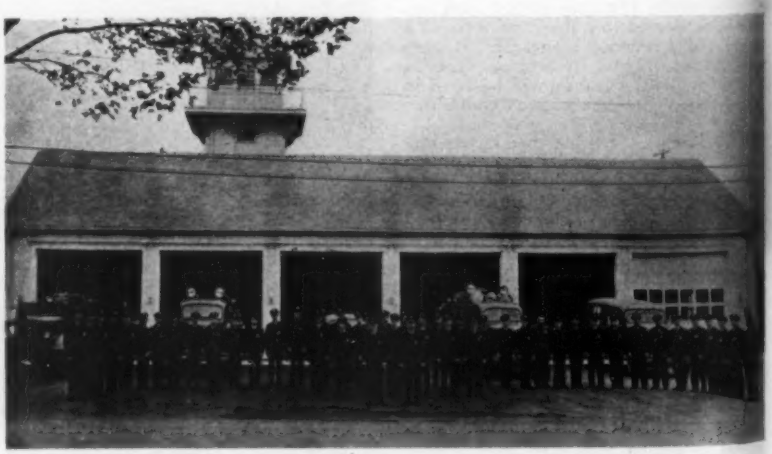
The department is equipped with two-way radio on chief's car, inspection cars and in the fire station.

The men are given a complete training course which takes 210 hours. The men are trained in first aid and rescue work; extinguishment of inflammable liquid fires; operation of ladders, hose lines; use of heavy equipment and operation of pumps. The men are also trained in the use of asbestos suits and foam generators.

The fire stations are equipped with overhead electric doors operated by remote control from the watch office and with the fire alarm system. The lights in the station operate also with the fire alarm system.

The department repairs its own fire extinguishers, fire hydrants and indicator post valves.

The department is headed by Chief A. L. Headlough, former captain in the Akron, Ohio, Fire Department and Assistant Chief F. J. Kronemeyer, former lieutenant in the New York City Fire Department.

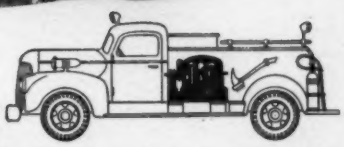


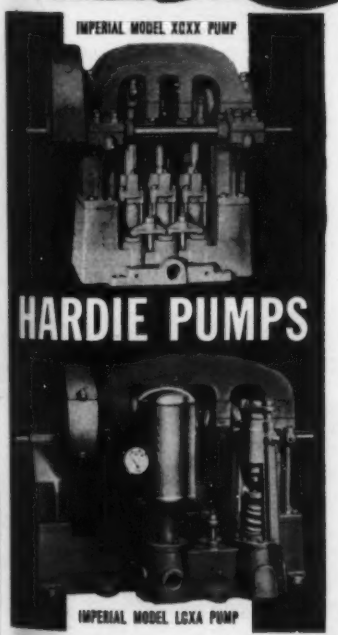
Apparatus and Men of the Plum Brook Ordnance Works Fire Department

In the front row are Chief A. L. Headlough and Assistant Chief F. J. Kronemeyer.

HARDIE PUMPS & GUNS IN OUTSTANDING FOG FIRE FIGHTERS

A big Fog Fire Truck built by The Mack Mfg. Company for U.S. Army Engineers, equipped with a Hardie Imperial LCXA pump, delivering 60 gallons per minute at 800 P. S. I. nozzle pressure.





● Long established, fully responsible engineers and manufacturers of Fog Fire Fighting Units know from experience how to judge the high pressure pump to be specified in such equipment. Hardie High Pressure Pumps are found in the Fog Fire Fighters built for U. S. Army Engineers by The Mack Manufacturing Company of Long Island City, N.Y., General Fire Truck Corporation of Detroit, Michigan, General Pacific Corporation, Los Angeles, California, Seagraves Company, Columbus, Ohio, in the crash trucks built for Pan-American Airways by Edgar Road Tank Works, Linden, New Jersey, and in Fog Fire Fighters built by other specialized fire equipment manufacturers.

The Hardie Pump easily delivers its full rated capacity and pressure at the slow speed of 130 R.P.M. Exclusive design and construction assure unfailing performance with nozzle pressures of 500 to 800 P. S. I. The Hardie is the only such pump completely lubricated—even to the plungers and plunger cups.

When you buy a Fog Fire Fighter, specify a Hardie Pump.

THE HARDIE MFG. COMPANY

Hudson, Michigan **Los Angeles, Calif.** **Portland, Oregon**

Perfected Fog Fire Gun

● The Hardie Fog Fire Gun provides single trigger control for all operations. Trigger alone opens and closes the gun and selects the type of stream desired. It completely and thoroughly breaks up the stream into a fine steam-like fog. No splatter. Strongly built to deliver nozzle pressure of 500 to 1000 P.S.I.

H·A·R·D·I·E

High Pressure PUMPS AND FOG GUNS for Fog Fire Fighters

WITH OUR READERS

Fire Hazards Around Home Demonstrated

To the Editor:

The photographs herewith may be of interest to the readers of FIRE ENGINEERING.

The fire prevention demonstration built around this model home has been very effective in San Diego. We have appeared at fifteen or twenty service clubs and at thirty-five Parent-Teacher Associations, and have on file requests for many additional programs.

The speaker impresses the audience first with the value of the American home because of its security from enemies of the world; secondly, because of its comfort and its many conveniences, and its interest due to radio and newspaper service. The alarming proportion of fires in American homes due to carelessness, neglect and indifference is compared to the much smaller fire losses in other countries and it is pointed out that this is probably due to the independent attitude of our people through the liberties granted in the Constitution and the Bill of Rights.

Red electric signals that flash intermittently are placed at four locations, pointing out defective chimneys and flues. These include the fireplace, hot water heater, the pitchen stove and a floor furnace. Hazards peculiar to these appliance are revealed.

These lights are then shut off and lights indicating ten electrical hazards are flashed on and the matter of inferior wiring, the abuse of electricity, overloading, inferior workmanship, amateur additions, etc., are defined.

Third, lights which are located in closets, concealed spaces, in attics, and out-of-the-way places, to warn against accumulations of trash or discarded or flammable materials are lighted.

Lastly, a light is flashed in the kitchen to indicate the danger of cleaning clothes with flammable liquids and as an explanation of the danger, three more lights are turned on to indicate the ignition source of the pilot light on the kitchen stove, the hot water heater, and the electric spark in the refrigerator.

The program is closed by the speaker telling of the sad experience of interviewing families the morning after a fire in which they have lost their sacred possessions, their home, or have even suffered a death in the family.

The house was built in its entirety by members of Engine Company No. 23 in San Diego from blueprints obtained from the building department. It is approximately three by four feet in size and is housed in a ply-wood case which is easily transported from one engagement to another.

Fire departments desiring any further information regarding its construction or the material used in presenting the program may write to our office in San Diego.

Very truly yours,
E. R. NEWTON, Fire Marshal
City of San Diego, Cal.

Dispersement of OCD Units

To the Editor:

As one of the subscribers to FIRE ENGINEERING, I have read with interest your two articles on what to do about OCD fire fighting units.

I believe that any civilian defense fire fighting units that are now idle, or which might become idle, could be used in a number of our small unincorporated cities where they are unable to purchase equipment by taxation except in states where there are fire district laws. Most of these communities range in population from 200 to 1500 and their present fire fighting equipment, if any, has been purchased through public donation entirely on a voluntary basis.

I believe also that the civilian defense protection program which has been carried on in the past two years will show cooperation between larger cities and these smaller cities as above mentioned.

Many of the larger cities that have this equipment could use some of it as emergency equipment in case of a major disaster of some sort. I have seen the time where I have had all my equipment out on one fire with nothing to cover the city for many hours. I am speaking mostly of the trailer equipment in this suggestion.

I think it is the duty of the larger cities to assist these smaller communities with their fire problems. That is my reason for belief that the OCD equipment could be utilized for the above mentioned type of protection.

It is true that a lot of this civilian defense equipment is made out of cast iron, including valves, caps, etc., but by replacing some of this cast iron with brass when available, these units can be made workable. I have found also that with proper care these cast iron devices work fairly well.

Being a firm believer in "helping our neighbors," I am passing these suggestions on to you at this time. I do not overlook the fact that, if this equipment is needed in our armed forces overseas, it should be sent there by all means.

Very truly yours,
C. A. WOLVERTON, Chief
Port Angeles, Wash.

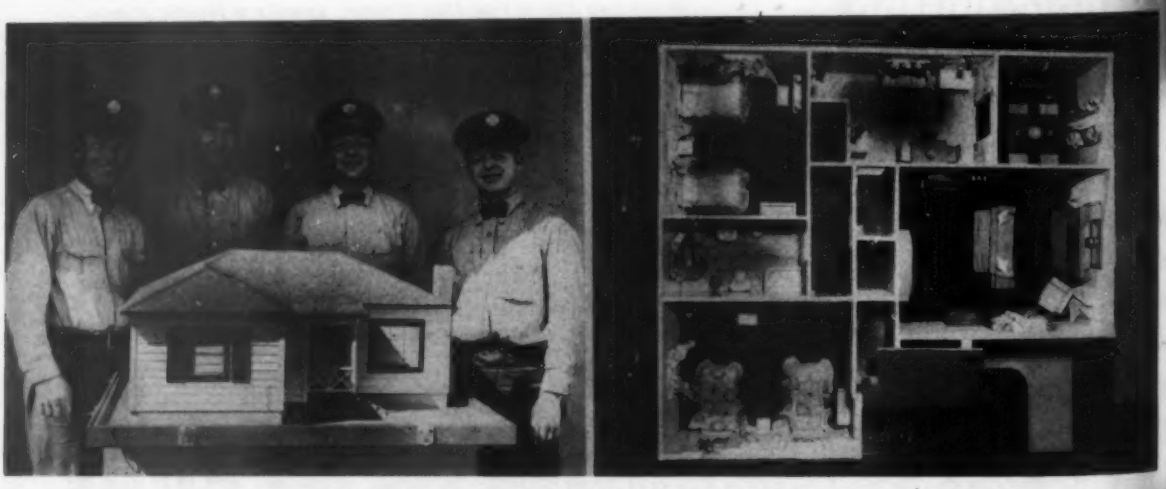
To Find E. P. or N. P. Without the KL Formula

To the Editor:

The following ideas on the subject of fire department hydraulics may be of interest to the readers of FIRE ENGINEERING.

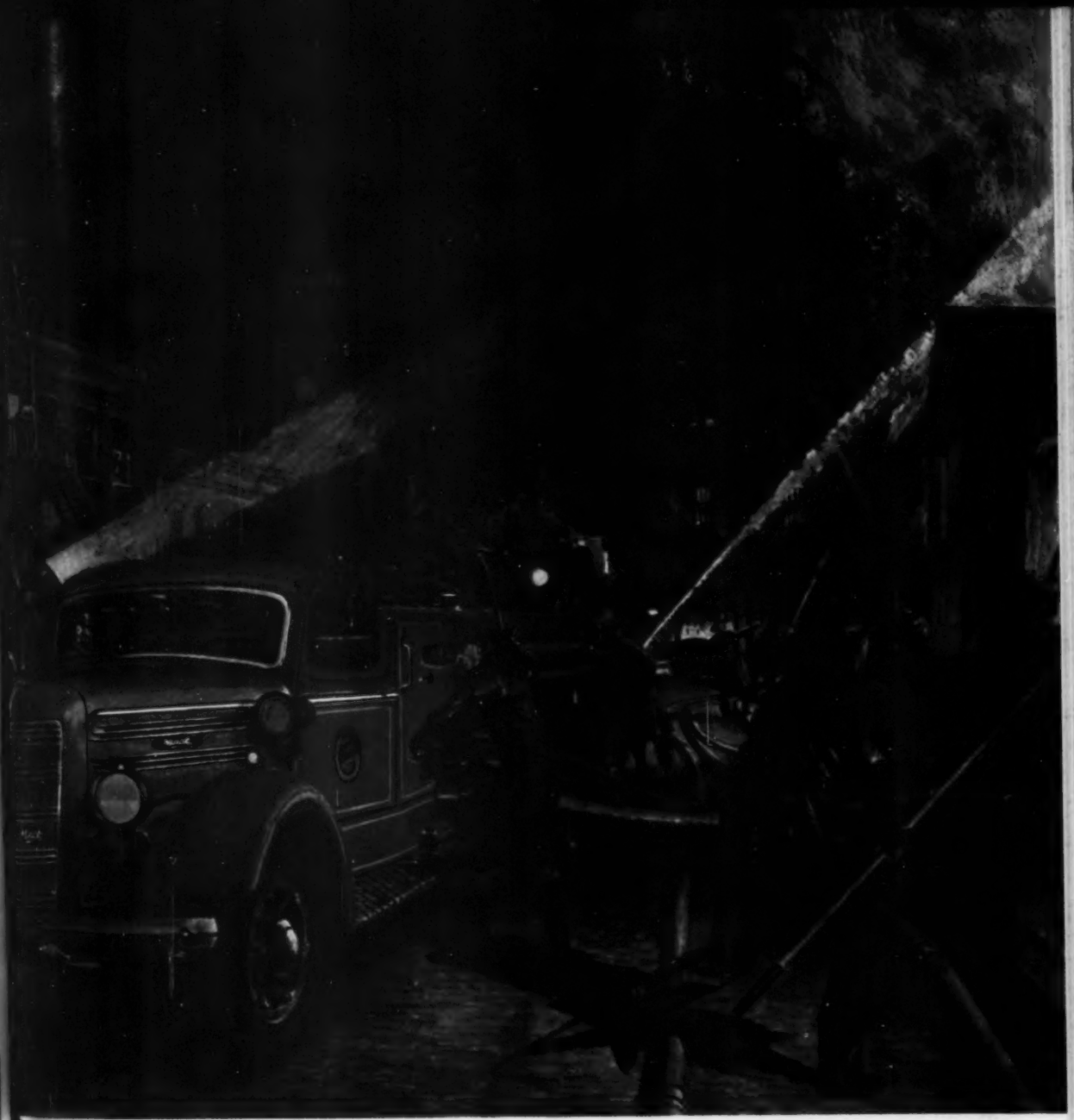
I have been a fire chief for fifteen years and at present am a captain on the Fort Dix, N. J., Fire Department.

(*Continued on Page* 398)



San Diego Firemen Build Bungalow Full of Lethal Hazards

Left: This bungalow is a fireman's conception of an average San Diego home. Made by these firemen (left to right), Lt. A. F. Larsen, J. R. Rogers, W. W. Davis and M. S. MacComas, all of Engine Co. 23, the model has been used by the fire marshal's staff to show various civic groups common fire hazards in the home. Right: The interior of the house, revealed by lifting off its roof, discloses the highly inflammable nature of furnishings. Red electric lights placed at hazardous points throughout the structure blink to illustrate high points of fire marshal staff demonstrations.



NO TIME TO GAMBLE...

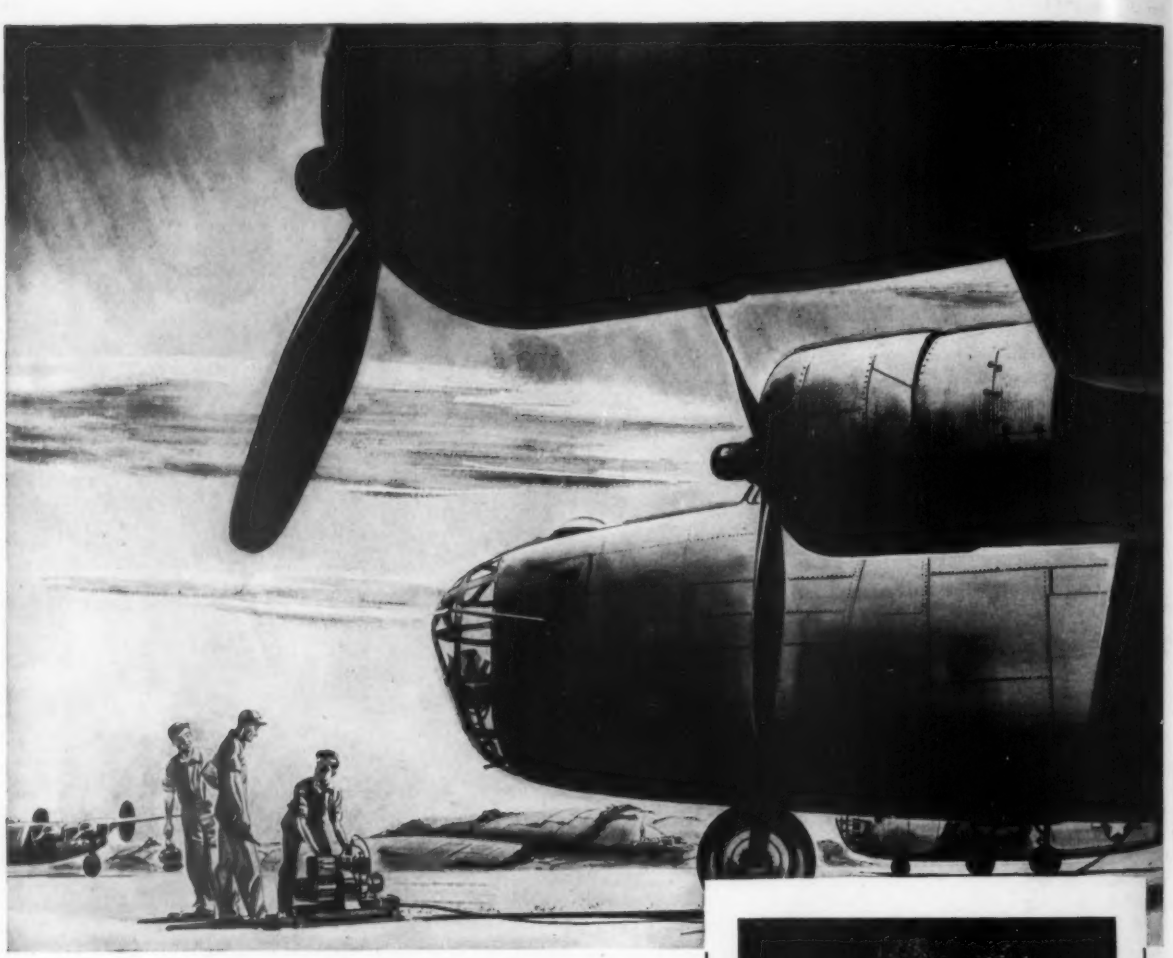
Hottest spot at any fire is apt to be the spot the Fire Chief is on. Let something go wrong—no matter whose fault—and he's pretty sure to be the "goat". That's why we're so proud of the Mack record for plain, old-fashioned *dependability*. Forty-four years of coming through are real assurance that when you've got Macks, you're not going to be let down.

Mack Manufacturing Corporation
Empire State Building, New York, N. Y.

Mack
FIRE APPARATUS

PROTECTING A THOUSAND AMERICAN COMMUNITIES—FROM VILLAGE TO GREAT METROPOLIS.

BUY U. S. WAR BONDS



They make bombers Fighting Mad

Bombers are pretty peaceful articles resting on the ground. But up in the air they're different birds. There's fire in their eyes.

What happens between the minute a bomber rolls out of a hangar and the time it takes to the air? Brother, you should see!

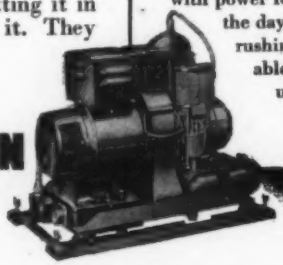
The busiest group of men you'll ever know start working on their pet. They gas her up. They stow the bombs. They check everything on the plane. And off to the side you'll see (and hear) the purr of the ground crew's faithful "putt-putt."

It's a Homelite Portable gasoline-engine-driven Generator . . . small, compact and *busy* . . . working for all it's worth, furnishing power for charging the plane's batteries and testing its electrical equipment . . . helping the boys in the ground crew to get the plane fighting mad.

It's not an easy life sparring with a bomber . . . getting it in fighting condition. But Homelites are able to take it. They do the job.

They Improve Dispositions

On the home front, Homelite gasoline-engine-driven generators are a blessing to busy construction men. Speeding up work with power for electric tools . . . stretching the day with night time lighting . . . rushing to emergencies with portable power . . . these Homelite units are always on the go.



HOMELITE CORPORATION
PORT CHESTER, NEW YORK

Nozzle Pressures on Branched Lines

To the Editor:

An engine at 180 pounds is pumping through a 500 foot line of 2½-inch hose which is branched into two parallel lines of 1½-inch hose each 150 feet in length and each equipped with a ¾-inch nozzle. What will be the pressure at each nozzle?

If ⅝-inch nozzles are used, what will be the pressure at each nozzle?

A. L. R.

Answer: First change each of the parallel lines of 1½-inch hose to 2½-inch. The conversion factor is .074.

$150 \div .074 = 2027$ feet of 2½-inch hose.

Then we reduce these two 2½-inch lines (the equivalent of the 1½-inch) to a single line of 2½-inch.

The conversion factor is 3.6.

$2027 \div 3.6 = 563$ feet of 2½-inch hose.

The total length of hose in the line is then 500 + 563, or 1063 feet of 2½-inch hose.

The next step is to combine the two nozzles into a single nozzle.

This is done by squaring the diameter of each nozzle, adding the squares so found, and extracting the square root of the sum of the two squares.

$¾ \times ¾ = .5625$
$¾ \times ¾ = .5625$
$.5625 + .5625 = 1.125$
$\sqrt{1.125} = 1.06.$

The nearest standard size nozzle to one of 1.06 inches diameter is a 1⅛-inch nozzle (which has a diameter of 1.125 inches).

Then the whole layout is equivalent to an engine at 180 pounds pressure pumping through a single line of 2½-inch hose 1,063 feet in length equipped with 1⅛-inch nozzle.

N. P. = E. P. ÷ (1.1 + KL)
K for 1⅛-inch nozzle on 2½-inch hose is .167
$L = 1063 \div 50 = 21.26$
Then N. P. $= 180 \div (1.1 + .167 \times 21.26)$
$= 180 \div 4.65$
$= 38.7$ pounds

This pressure, 38.7 pounds, is the pressure at each of the ¾-inch nozzles.

The solution to the second problem is as follows:

Up to the point where the diameter of the combined nozzle is to be determined, the solutions are the same.

To find a single nozzle equal in area to two ⅝-inch nozzles, the procedure is as follows:

$⅝ \times ⅝ = .3906$
$⅝ \times ⅝ = .3906$
$.3906 + .3906 = .7812$
$\sqrt{.7812} = .884$

The nearest standard size nozzle to one of .884 inches in diameter is a ⅞-inch nozzle (which has a diameter of .875).

N. P. = E. P. ÷ (1 + KL)

(Note that in this formula we use 1 in place of 1.1 inside of the parenthesis.)

K for ⅞-inch nozzle on 2½-inch hose is .068
L, which is the same as in problem 1, is 21.26
Then N. P. $= 180 \div (1 + .068 \times 21.26)$
$= 180 \div 2.446$
$= 73.5$ pounds, which is the pressure at each of the ⅝-inch nozzles.

Hazards of High Octane and Ordinary Gasolines

To the Editor:

How does high octane gasoline compare with ordinary gasoline insofar as fire hazards are concerned?

R. W.

Answer: The following information on the subject has been supplied by H. E. Newell, Assistant Chief Engineer of the National Board of Fire Underwriters:

"The following discussion is intended to clear up very apparent misunderstandings concerning the fire hazard characteristic of so-called high-octane aviation fuel as compared with ordinary gasoline such as you and I use in our automobiles.

"First of all, let us consider what is meant by the octane rating of a motor fuel. Briefly, this is a measure of its "no-knock" characteristic or, in other words, its effective combustion.

"In order to determine the "no-knock" or octane rating of a given motor fuel, the fuel in question is burned in a specially designed test engine. The extent of knocking produced is measured and then compared with the burning in the same engine of a measured amount of two chemically pure hydrocarbons. These two hydrocarbons are octane and heptane. The percentages of these two are varied until they produce a no-knock characteristic the same as that of the fuel being measured.

"The measure is, in fact, a comparison between any given fuel and a mixture of octane and heptane so proportioned as to produce the same no-knock characteristic. The amount of octane that must be mixed in order to produce the same characteristic is the figure that is used to indicate the octane rating.

"I have listened to the fears expressed by various persons engaged in fire prevention activities. They are very much concerned with the greatly increased storage of 100 octane gasoline—aviation gasoline. They imagine this gasoline possesses extremely high volatility. Many people have the preconceived notion that "high octane" is synonymous with "volatility" and "high test." This conception of aviation or high octane gasoline is entirely wrong. As a matter of fact, its volatility is less than that of the motor gasoline you are used to dealing with.

"In comparing aviation gasoline with ordinary motor gasoline, if tendency to form vapors is a measure of fire hazard, the hazards in connection with the storage and handling of aviation gasoline are considerably less than they are for motor gasoline.

"To be reliable for airplane use, you can readily understand that aviation gasoline must still remain a liquid when the planes using it are operating in the stratosphere, i.e., extremely high altitudes, in an environment of considerably reduced atmospheric pressure. If ordinary motor gasoline was used at these high levels, the reduced air pressure would lower the boiling points and produce vapor-lock in the carburetors and fuel distributing systems. It therefore follows that aviation gasoline must of necessity become a relatively stable fuel at ordinary atmospheric pressure in comparison to motor fuel.

"In conclusion, while the fire hazard of high-octane or aviation gasoline should not be belittled, a true appraisal of all of its characteristics clearly shows that it is not in any way more dangerous than ordinary motor gasoline, but to the contrary is somewhat less hazardous, and readily subject to control by any or all of the usual fire extinguishing agents for ordinary gasoline."

Supply from Hydrant

To the Editor:

We have a 500-gallon pumper that will handle three lines of 2½-inch hose. We have a standing pressure of 35 pounds (according to our pump gauge) at our weakest hydrants. These hydrants have only 2½-inch connections. By turning on a pump at our city water pumping station we can add about 20 pounds to this pressure. We would then have 55 pounds plug pressure. Would a soft suction hose of 4½-inches in diameter with a 2½-inch connection on the plug end furnish as much as two lines of hose from the pump at 80 to 100 pounds pressure. If not, just what would it furnish?

W. M.

Answer: In answering the question regarding the use of soft suction on a pumper, where the hydrant pressure is 35 pounds per square inch, we might say that a 4½-inch soft suction at this hydrant pressure would give all the water required by the pumper. However, if the main is badly encrusted, is of small diameter, and is fed only at one end, it might not be possible to get 500 gallons per minute from it.

A 4½-inch outlet at 4 pounds pressure will discharge 1090 gallons per minute. But if the interior condition of the main is bad, and the line is long and fed at but one end, the main might not supply this quantity of water. The hydrant pressure, while no water is flowing, means nothing in itself. But the flowing pressure is the factor we must take into account. If, while flowing at 500 gallons per minute, the hydrant can maintain a pressure of 10 pounds at the discharge, then it would be safe to use soft suction hose.

It is not practical to determine the discharge capacity of a hydrant without making actual flow tests.

Our inquiring reporter overhauls the firemanic news of the day

Judge Burned Up?

Judges are not usually on the "hot seat"—it's their job to dish it out not to take it. But Judge Charles A. Dewey, Keokuk (Ia.) was at the receiving end of it. He had just heard a jury acquit a former bank teller in an embezzlement case when he squirmed in his chair and jerked suddenly with a muffled outcry—or was it an imprecation? In short, he ejaculated, and how!

As spectators started in amazement, the judge explained that he had become **"so excited a match caught fire in my pocket."** Meanwhile he was vigorously slapping out the blaze with his hands. Peculiarly enough, this is the second account of a fire in the or on the person of a member of the legal profession in the courtroom (thanks JWC).

* * *

Not Only the Mails Go Through!

At least one milkman believes that, come what may, the milk as well as the mails must go through.

During the height of a recent fire, while firemen were running hither and thither with hose, axe and extinguishers, (that's the way the account reads but we don't admit that firemen are so aimless) a delivery man for a Lorain (O.) dairy, nonchalantly entered the smoke-filled bubbling with two wire containers filled with bottles of milk.

* * *

Fire Couldn't Wait!

Fire is no respecter of persons or things. The Grand Ridge (Ill.) volunteer fire department knows it. But they weren't to be caught napping when the emergency arose. Seems that their new pumper truck, mostly homemade from parts obtained catch-as-catch-can was a success even before it was finished. The firefighters had fitted parts of the truck together and were in the midst of painting it when the whistle blew for a fire in a Main street garage. Nothing daunted, the 40 vamps, rushed the equipment to the blaze—wet paint and all—and did their stuff.

* * *

Making a "Fuel" of the F. D.?

This happened in the nation's capitol. A drive for a fuel oil company drove up to a store to deliver oil. As he attached the hose to a pipe, someone (a practical joker, no doubt) said: **"That isn't the pipe—it's over on your left."**

The driver obediently moved his hose and stood by while the oil ran out—817 gallons of it. Suddenly a store employee came out, yelling **"Cut it off!—the basement's full of oil!"**

The driver investigated. Un huh—the hose was connected to an old pipe that went inside the building—and ended there. The 'erl' was flooding the basement and pouring into the elevator shaft. You guessed it, the Brothers were called and pumped it all out. Said the driver: **"Well, I got the coupons, anyway!"** What the Brothers said ain't worth repeating!

* * *

Old Faithful Blows Up!

The sad news has reached us, via our Washington newsleuth that "Old Faithful," Alexandria (Va.) ladder truck that has roared and rumbled to blazes for over 15 years, literally "blowed out with a bang" t'other day.

The ancient vehicle's motor exploded en route to a fire, scattering engine parts and crankcase oil for the better part of a block.

That gnashing of teeth you hear is Chief Jimmy Duncan, of Alexandria bemoaning another bit of hard luck for his department. Last news we had of him was when some miscreant stole his shiny red chief's car, radio, siren, lights and all! There ain't no justice!

* * *

Going at a Merry Clip

John J. Weisberger, renowned New York Buff and demon clipper (and why not, for he's a newspaper man) submits the following choice bits—

St. Louis (Mo.)—Firemen had already extinguished the blaze in a storeroom when the owner frantically telephoned the fire station for them to be careful. In the room, he explained, were 37 sticks of dynamite and 88 percussion caps used in demolition work. Write your own caption for this one!

Idaho Falls (Idaho)—A hook and ladder truck raced through the downtown streets with siren screaming, but it failed to draw the expected crowd to the scene of a war bond rally. Motorists for once heeded the oft-repeated warnings not to follow the fire trucks.

Buffalo (N. Y.)—Her dolly was cold, so 9-year-old Matildo Sill placed it in the oven. Result: smoke, firemen, charred dolly and weeping Matildo.

Albany (N. Y.)—Percy Martin, 45, has an aching tooth plus a 30-day jail sentence. Hauled before Police Judge Edward S. Kampf for pulling a fire alarm, Martin said: "I had such a bad toothache I wanted some quick action." He got it!

* * *

Write Your Own Headline to This'un

Sanford D. Dewey, faithful correspondent now in the service, sends us one that earns him the hand-painted thimgamajig. It goes like this: Members of Vestal Volunteer Fire Co. No. 1, Endicott (N. Y.) took a second look to make sure their eyes were not deceiving them when they pulled up to a house in answer to an alarm of fire (he even gives us the date—Feb. 5, 1944). Sure enough! there was fire and there was smoke—nothing very unusual in a fire—but what makes this particular case so Ripley-esque is the fact that said fire and smoke originating from or in—of all places—a pair of women's silk panties. And **whoa!**—before you get wrong notions—it so happened that the garment in question was hanging from a clothes line!

According to Brother Dewey, the vamps, who were holding a session at the fire station broke up the meeting when they heard shouts of "Fire!" coming from the adjoining house. Chief Thomas J. Moss listed the damage at $1.29, replacement value, and attributed the blaze to a child playing with matches. (One of our proof readers wants to know the age of that there child!)

* * *

Help the Brothers!

From Shepard Field (Tex.) comes an item signed J. M. Brand which takes the cookie. Here it is, as printed in the local newssheet:

"The Bowie Volunteer Fire Department, composed of business men and leaders of the city is very busy. This week, according to the Bowie Blade, *they politely asked the residents of the city to notify the department in advance when a fire is planned.*

"1. Have you decided when you want us to make a hurry up call to see you? If so, please state the day and the approximate hour.

"2. At what hour do you plan to expose your combustible decorations to open fires, heavy lights, matches or candles?

"3. Please let me know the hour of the day or night you plan to place in use your old, frayed, electric cords, light or appliances.

"4. We can reduce your fire loss if you will let us know when your accumulation of paper, waste wrappings, and boxes will reach a peak, allowing a few minutes time before it is ignited.

"5. By letting us know about five minutes before you allow your Christmas tree to become ignited in the house, your loss can be kept principally to water and smoke damage, or maybe only the use of a small fire extinguisher will be necessary.

"Seriously, this is a reminder and a request that we will diligently try to make this season fire-safe. Our carefulness can keep it pleasant; our carelessness will make it disastrous.

"Members of the Bowie Volunteer Fire Department."

We kinda like that bit of pleasant and educational persiflage. And we've tucked it away in our follow-up file to bring up next Holiday Season.

* * *

Mutual Aid Works

When fire, which started in the Boy Scout rooms in Lamont (Ia.) got out of control and fanned by a high wind threatened the community, help was called from nearby Leon (Ia.) and the joint departments, aided by civilian volunteers, saved the town.

* * *

Mutual Aid Doesn't Work!

The good people of Bowling Green (O.) don't like the idea of one-sided mutual aid. The local paper has taken a poke at the community for sending help to its neighboring community, Portage (O.) when, only a few months previously, the latter town refused to respond to a call to fight a fire in a house on the fringe of Bowling Green.

HANG THESE ON YOUR WALL!

this famous fire . . .

this famous fire fighter . . .

Hundreds of the world's most precious art treasures were destroyed within 30 minutes when flames engulfed the New York Crystal Palace on October 5, 1858. As an event of world-wide interest this historic fire was illustrated by Currier & Ives, renowned print makers. A free copy, reproduced in black and white, is available now from The General Detroit Corporation. Ideal size for framing. Limited supply. Send coupon *today!*

S.O.S. FIREGUARD 1 qt. size

If it's GENERAL DETROIT it's better

S.O.S. FIRE GUARD is a quick, efficient, "on-the-spot" fire fighter. Handy 1 or 1½ qt. sizes for car, truck, boat, airplane, home or plant. Instantly extinguishes flame . . . guards against post-ignition hazards . . . S.O.S. FIRE GUARD is a vaporizing liquid (C.T.C.) type extinguisher, especially recommended for electrical, gasoline, oil, and similar fires. S.O.S. FIRE GUARD is quality mass produced for essential users by General Detroit, manufacturers of such other famous makes as Alaskan, Floafome, and Ad/Foy. Prompt delivery.

THE GENERAL DETROIT CORP.

HANG THIS ON YOUR WALL

Former name The General Fire Truck Corp.

NEW YORK DETROIT CHICAGO

Distributors in all principal cities

West Coast Affiliate: The General Pacific Corp., Seattle, Los Angeles, San Francisco.

THE GENERAL DETROIT CORP.
2300 East Jefferson Ave., Detroit 7, Michigan

Send free copy of the "Crystal Palace" Fire.

Name_____

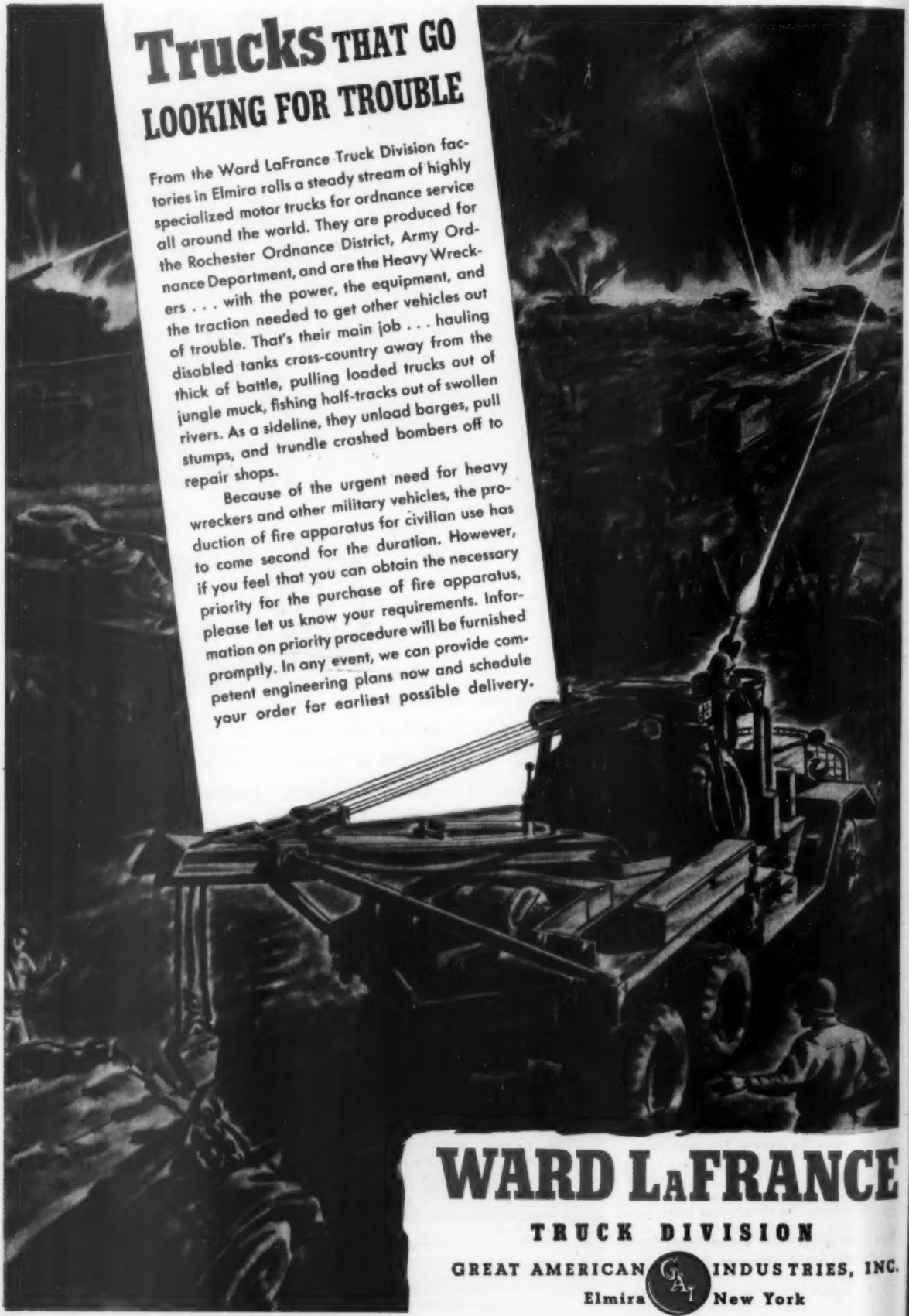
Title_____

Attach this convenient coupon to your letterhead and mail. (300)

Trucks THAT GO LOOKING FOR TROUBLE

From the Ward LaFrance Truck Division factories in Elmira rolls a steady stream of highly specialized motor trucks for ordnance service all around the world. They are produced for the Rochester Ordnance District, Army Ordnance Department, and are the Heavy Wreckers . . . with the power, the equipment, and the traction needed to get other vehicles out of trouble. That's their main job . . . hauling disabled tanks cross-country away from the thick of battle, pulling loaded trucks out of jungle muck, fishing half-tracks out of swollen rivers. As a sideline, they unload barges, pull stumps, and trundle crashed bombers off to repair shops.

Because of the urgent need for heavy wreckers and other military vehicles, the production of fire apparatus for civilian use has to come second for the duration. However, if you feel that you can obtain the necessary priority for the purchase of fire apparatus, please let us know your requirements. Information on priority procedure will be furnished promptly. In any event, we can provide competent engineering plans now and schedule your order for earliest possible delivery.



WARD LaFRANCE

TRUCK DIVISION

GREAT AMERICAN INDUSTRIES, INC.

Elmira New York

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

Industrial Fire Protection School Held

A school for industrial fire protection and fire fighting is being offered as one of the ESMWT courses of the United States Office of Education at Washington University, St. Louis, Mo. The school which began on May 22 is to run for sixteen weeks and is called the Mid-West Plant Protection Conference. It is hoped that an advanced course, also of sixteen weeks duration, will be presented upon the conclusion of the first course.

The planning organization, composed of plant protection officials of many of the largest industrial plants in the St. Louis area, felt that fires in industrial plants have been all too frequent and beside causing considerable loss of life and property, definitely hinder the war effort. The group has concluded that something must be added to the existing fire control program if industrial fire losses are to be reduced, and felt that the founding of a fire school, intended primarily for industrial plant personnel, would be a step toward the solution of the problem.

When the idea of offering it as one of the war training courses was presented, Professor Harry G. Hake, director of the ESMWT program at Washington University, received it with enthusiasm.

Lectures, classwork and movies used in connection with the course will be presented on the campus of Washington University. Practical demonstrations and actual training with apparatus and equipment will be conducted at the St. Louis Fire Department Training School, through the cooperation of Chief Frank Egenriether.

Lecturers for the course include the following: C. W. Gabel, Superintendent of Plant Protection of The Emerson Electric Manufacturing Company; William Larkin, Fire Protection Engineer, Missouri Inspection Bureau; Captain Robert W. Quinlivan of the St. Louis Fire Department; John W. Cruickshank, Resident Engineer, Associated Factory Mutual Fire Insurance Companies; George N. Ricker, District Manager, Boston Manufacturers Mutual Fire Insurance and Arkwright Mutual Fire Insurance Company; Garrett B. James, Sr., Fire Protection Engineer, Monsanto Chemical Company; and Horace McMullen, Special Agent, National Board of Fire Underwriters.

Toy Factory Destroyed by Fire

A carelessly tossed match into a can of lacquer at the plant of the Crosby Products Company, a toy manufacturing concern, at Bethel, Conn., some time ago, destroyed the 65-year-old wooden building, causing damage estimated at $50,000.

Three boys, said by Fire Chief Herbert A. Webb to be high school students working extra time at the plant, were alone in the building at the time and were forced to flee to safety when flames enveloped the old structure.

Despite combined efforts of the Bethel and Danbury Fire Departments, the fire spread quickly through the entire structure and leveled the spacious two-story building within an hour.

Ten lines of 2½ inch hose and several lines of 1½ hose were put into service by the two Departments. In addition to the Crosby Products Company, a mattress concern operated under the name of the Long Brothers Company, and owned by David Long of Danbury, also occupied the building. According to Fire Chief Webb, the building was equipped with an automatic sprinkler system but it did not function during the fire.

One of the results of the fire was the burning of the main telephone cable in Bethel. This put almost all the telephones in the town out of commission. A nearby home and a vacant factory across the street were badly scorched. It was fear of the flames spreading to these buildings that prompted Chief Webb in calling aid from the nearby Danbury Fire Department, headed by Chief John H. McNamara. THOMAS F. MAGNER.

Tank Car Fire Engine Protects Raritan Arsenal

Fire Chief Ferdinand Vaugoin, in charge of the 76-man Fire Department at Raritan Arsenal, an Army Ordinance depot in the New York area, is proud of the tank car fire engine which his men converted from a standard railroad tank car. It has proved effective for fighting grass fires in the Raritan marshes and can readily be moved among the Arsenal warehouses over a web of connecting trackage.

With few alterations to the original tank car, a Gould pump driven by a Ford V-8 automobile motor was installed at one end of the car. It develops a volume of 500 gallons a minute. The tank car has a capacity of 8,000 gallons.

At the opposite end of the tank car a two-cylinder Wisconsin Trench Marine motor was hooked up to spray fifty gallons a minute through a 100-foot 1½-inch rubber hose. The rubber hose, effective in the fighting of grass fires, is also used for refill, either from hydrants located throughout the Arsenal grounds, or by pump suction from streams or other open water reservoirs. The Wisconsin Trench Marine also is used to circulate six tons of calcium chloride as anti-freeze in Winter weather.

Main hose is bedded in a deck on top of the car and the rubber hose winds around the cupola. Ten 50-pound cans of foam powder are carried in a magazine along one side of the car for use through a mixer attached to the main hose in fighting oil and gasoline fires.

The tank car is moved by a Diesel electric engine and the ample trackage at the Arsenal makes it possible to place it within fire-fighting distance of virtually every building in the Arsenal grounds. Two large headlights at each end of the car provide illumination for night fire-fighting.

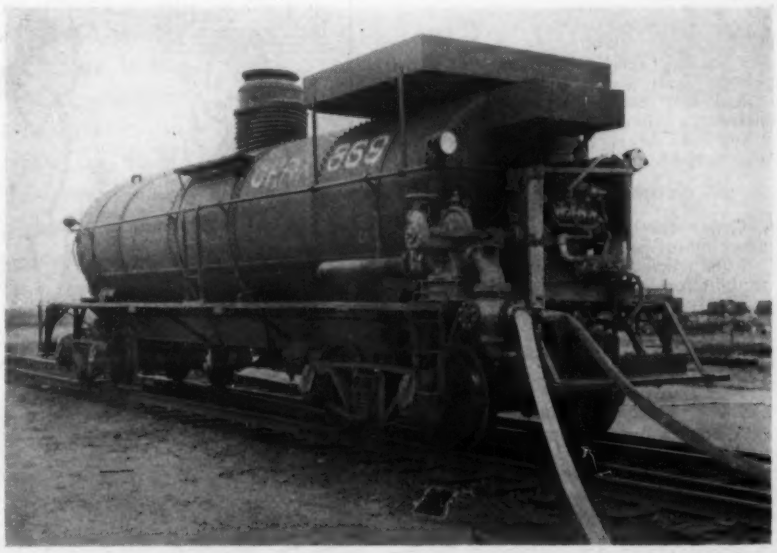
The tank car fire-fighter is housed neatly in a side section of one of the Arsenal firehouses, always ready to go into action.

New York Cities Win Honors in Fire Prevention Campaign

Six New York State cities received honors in the national fire prevention campaign which has been conducted annually for the past twenty-two years. More than 500 cities, with a total population of over 40,000,000, were in the contest this year.

The city of Watertown in upstate New York received fifth place in the grouping of cities from 20,000 to 50,000 population. First entering the campaign in 1928, the city of Watertown received honorable mention that year and won first place the following year. Since that time it has received honorable mention on seven different occasions. Rochester won second place in its classification with honorable mention going to Buffalo, Utica, Schenectady and Corning.

The average per capita fire loss for the winning cities in 1943 was $2.14 as compared to $2.77 for the nation as a whole. The prizes are awarded on the basis of reduction in fire loss, fire prevention education, clean-up and fire prevention week campaigns, adoption of building and fire prevention codes and similar subjects. SANFORD D. DEWEY.



Tank Car Fire Engine in Use at the Raritan Arsenal

The pump with siamese connection mounted at end of tank car fire engine is capable of pumping 500 gallons per minute and is driven by a V-8 Ford automobile engine.

FALSE ALARMS

Too Efficient

A man dashed into the fire station. He was tremendously excited, and burst out with "I'm sorry to interrupt you all, but my wife has disappeared again."

One of the firemen looked up.

"That's too bad," he sympathized, "but why tell us firemen? Why not notify the police?"

The intruder shook his head.

"I don't dare tell the police," he exclaimed. "I told them the last time she disappeared—and they went out and found her!"

Colonel: "And where is Cadet Smith?"

Smart Private: "A. W. O. L."

Colonel: "What do you mean by that?"

Smart Private: "After women or liquor."

Courage

"Nothing doing," said the chairman of the draft board to the draftee who asked for reclassification, having just married a widow with fourteen children. "Any man brave enough to marry like that is the kind of man the army needs."

Order received by sergeant of the army motor pool:

Four trucks to Fort Brady Gym 7:30 tonight for hauling girls to dance.

The bodies must be cleaned and seats wiped off. All curtains in place.—Journal American Medical Association.

Friendly Enemies

A convoy was on its way to Russia under enemy observation for practically the whole of ten long Arctic summer days. Focke-Wulfs circled round only 100 feet up. Finally the officer got fed up with the Focke-Wulfs and sent them a signal: "You are making us dizzy. Please go the other way round."

The Germans promptly obeyed.—*News Chronicle*, London.

"Pardon me, Miss," said the sentry, "but it's against regulations to swim in this lake."

"Well, for heaven's sake," exclaimed the maiden, "why didn't you tell me before I undressed?"

"It ain't against regulations to undress, lady."

Followed Instructions

"Cut your copy to facts and bare essentials," bawled the city editor to the cub reporter. The cub did, as his story next day proved:

"John K. Edwards looked up the shaft at the Union Hotel this morning to see if the elevator was on its way down. It was. Aged forty-five."

Devil: "What are you laughing at?"

Imp: "Oh, I just had a woman locked up in a room with a thousand hats and no mirrors."

Diner: "I should like a porterhouse steak, with mushrooms, some deliciously browned toast with plenty of butter."

Waiter: "S'cuse me, suh. Is you trying to give me an order, or is you jes' reminiscin' 'bout old times?"

Got Even

"Heah, conductor," yelled the infuriated "colonel" on a train in the South. "That was my station, suh! Why didn't you-all stop there, suh?"

"We don't stop there no more," explained the conductor. "The engineer's mad at the station agent."

If a bull threw a politician — that would be news.

The man answered the telephone and said, "I'm sure I don't know. Why don't you try the weather bureau?"

"Who was it?" his wife asked.

"Must have been a sailor. He wanted to know if the coast was clear."

Women's faults are many;
Men have only two;
Everything they say,
And everything they do.

Wanted—Stenographer

Office Manager (to new office boy): "Has the stenographer told you what to do in the afternoon?"

New Boy: "Yes, sir; I'm to wake her up when I see you coming."

Just Round About

Police Judge: "Just where did the automobile hit you?"

"Well, your honor, if I had been wearing a license plate it would have been badly damaged."

Beware of Ladders

He laughed when they told him the ladder was weak,
And remarked it would hold half a ton.
It cost him a hundred to settle the bill
When the doctors and nurses were done.

"Now Young Man, What Was It You Wanted?"

DUAL PURPOSE

1" SOLID STREAM OR FINEST FOG

FROM THIS ONE PUMP

DON'T LIMIT YOUR TRUCK TO A SINGLE USE WHEN YOU NEED BOTH!

Fog has proven to be highly effective fighting certain classes of fires, but cannot be used to put out all fires. This new, high pressure, patented, Barton-American front mounted pump is the practical solution to the water and fog problem. With this ONE CENTRIFUGAL PUMP, you can have BOTH! You can throw the finest, high-pressure, all-smothering fog one minute and in the next instant, using a regular 1" nozzle, throw 200 gallons per minute at standard fire stream pressures.

Space and weight saved by the front mounted construction makes possible larger booster tanks, additional hose carrying capacity and the carrying of other equipment on your truck.

This pump, like our other front mounted units, CAN BE OPERATED WITH THE TRUCK IN MOTION, enabling you to fight running grass fires effectively with either solid stream or fog.

Being of the centrifugal type, the GK-100 handles dirty water — even at the 600 pounds fog pressure — without damage.

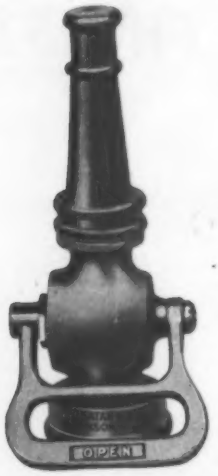
Ask for complete information about this new dual purpose fire fighter that puts fog AND water within the range of even the most modest budget!

EFFECTIVE WITH ANY MAKE OF FOG NOZZLE

This pump will produce effective fog using any of the well-known fog nozzles on the market.

AMERICAN-MARSH PUMPS INC.
BATTLE CREEK, MICHIGAN

The Finest BRASS GOODS *money can buy*



THE Powhatan "Shut-off" nozzle is built for practical and efficient service. Its sturdy construction, expert designing and careful workmanship can't be beaten at any price. Built to produce a solid stream with maximum range, it operates with ease under any tip pressure. The "shut-off" mechanism operates against any internal pressure with two-fingered ease.

Backed by the experience of manufacturing brass goods for fire departments, for over 50 years, Powhatan is proud to offer this sturdy piece of equipment to any department. For further information write to:

REG. U.S. PAT. OFF.

POWHATAN

BRASS & IRON WORKS

RANSON, WEST VIRGINIA

Phones 93 and 94—Charles Town, West Virginia

Established 1892

Two Killed in Explosion

Two men were killed and three others were taken to a hospital at Bristol, Conn., on May 17, as the aftermath of an explosion at the rolling mill of the Wallace Barnes Company Division of the Associated Spring Corporation on Broad Street.

The men killed were Supernumerary Policeman Ernest Schilke, 23, a veteran of World War II, who participated in the Guadalcanal campaign, and Harry Pryor, 28, an employe at the plant.

Policeman Schilke met his death when with Fire Chief Orrin Porter of the Bristol Fire Department, he attempted to rescue Pryor who had been overcome by gas fumes while repairing a gasket after a valve had blown off.

THOMAS F. MAGNER

Protection of Savannah Army Depot

On May 5th, two years ago, the Savannah Army Service Forces Depot's Fire Department, Savannah, Georgia, now under the direction of Major Robert N. Myers, Fire Marshal and Col. E. C. Gere, Commanding Officer, was activated. In this two years' time they have maintained an enviable record in their job of protecting the life and property at that installation.

The Depot Fire Department is similar in every respect to any municipal fire department, including the most modern fire fighting equipment, fire alarm systems, personnel organization and discipline, fire prevention inspectors and various other responsibilities and duties involved in the operation of a paid fire department.

The Depot Fire Department is divided into two equal groups, each being assigned to alternate twenty-four hour tours of duty. All firemen are subject to call for emergency duty at all times. The fire station is literally their second home, as they eat, work and sleep there the greatest portion of their time. Their job is one of expectancy. They must be ready at a moment's notice to take their place against the hazards of fire, wind, water and other calamities to which property and human beings are subjugated.

Some of the duties of the fire department are: service and inspection of fire extinguishers, stirrup pumps, water and sand barrels, fire hose reels, gallon wheel extinguishers, fire hydrants, fire hose, all warehouses in the area, administration building and various outlying buildings; operation and maintenance of fire station, including housekeeping, fire equipment, records and other additional duties. They have completed, since their activation, more than 126,000 fire inspections of buildings and warehouses.

A successful fire protection program is essential to protect structures and facilities at any military establishment. In time of war, destruction of military utilities results in a serious loss of vital products which may be difficult, or even impossible to replace, and, also, might hamper the flow of war materials from our supply sources to those places where they are greatly needed.

Chief Ivan T. Goodrich and the members of the fire department at the Savannah Depot have kept fire losses down to a fraction less than $14 which puts them in a position to be proud of the work they are doing for the war effort as well as that installation.

Detroit Firemen Fight Two Downtown Blazes the Same Day

Detroit, Mich., firemen were kept busy fighting two fires in the downtown section of the city on April 4.

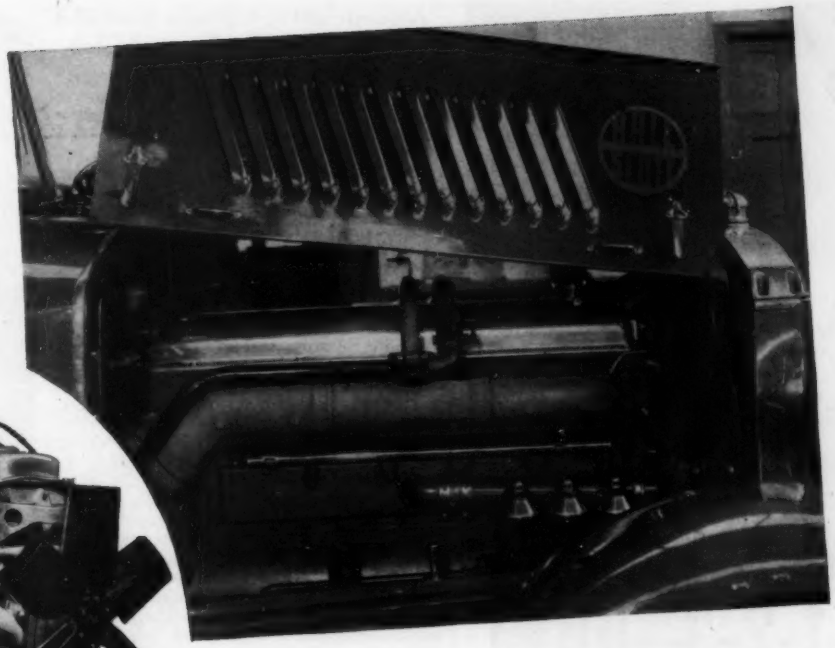
The first fire occurred in the garage-warehouse of the Detroit Gasket Manufacturing Company, and was received at fire headquarters at about 12:30 P. M. The nature of the contents, bales of cork cuttings from which gaskets had been made, defied the efforts of a three alarm assignment for some time. Chief John Keefe took personal charge of the fire. Fifty tons of cork were destroyed.

At about 2 P. M. the second blaze occurred. This fire lasted for three hours and required a four alarm assignment. The distance between the two fires is only a matter of a few blocks, which meant that the company assignments for the first, second and third alarms would be identical. The fire occurred in the National Tobacco and Grocery Co., which was damaged in the amount of $60,000. A neighborhood dance hall was also damaged by the smoke.

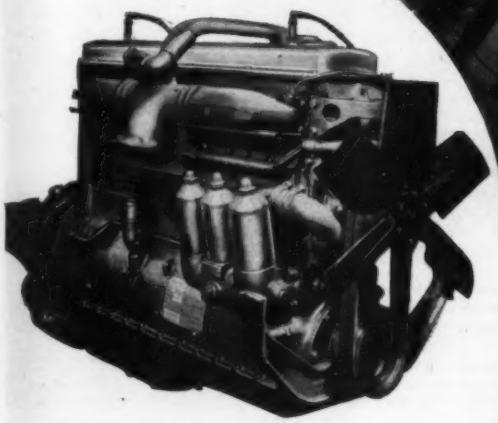
GEORGE B. HILL

Members of the Army Services Forces' Depot Fire Department

Front row, left to right: A. B. Hand; W. B. Cowart; W. W. Purvis, G. F. Futch; A. Y. Britt; E. A. Lewis, Sr. Fire Fighter; H. D. Purvis, Sr. Fire Fighter; C. L. Geiger, Sr. Fire Fighter. Back row, left to right: Col. E. C. Gere, Commanding Officer; I. T. Goodrich, Fire Chief; G. L. McGraw, Fire Inspector-Drillmaster; R. H. Kemp; W. N. Hill; W. F. Sports; E. H. Hunt; J. A. Hobbs; C. D. Crosby; J. H. Summerlin, Sr. Fire Fighter; J. C. Waters, Asst. Fire Chief; Major Robert N. Myers, Fire Marshal and Post Engineer. J. C. Sheban, Fire Inspector-Drillmaster, was on fire inspection detail when this picture was taken.



The lower the speed and the fewer the cylinders for a given horsepower, the longer the life and the lower the maintenance. The Hall-Scott "400" has but 6 cylinders, and develops its full rated horsepower at *less* than 2200 R.P.M.



Let us put you in touch with Fire Chiefs who know at first hand Hall-Scott's power, dependability, and cost of maintenance. We are confident that they will tell you that these "400's" can out-perform any other engine offered. The "400" shown above repowers a Mack, Type 19, 1,000 gallon pumper owned by the city of Berkeley, California.

THERE IS NO SUBSTITUTE FOR

POWER!

When full performance is demanded from fire apparatus — whether for surging acceleration on the road, or for pumping 24 to 48 hours at a stretch — nothing takes the place of ample power.

Power . . . such power as is developed by the new series 400 Hall-Scott 6-cylinder engine with 5¾" bore, 7" stroke, and 1090 cubic inches displacement. These Hall-Scott 400 series engines develop from 250 to 300 B.H.P. at speeds *below* 2200 R.P.M. They weigh only 2250 pounds, completely equipped, and are so compact they can be installed in compartments designed for engines of much less horsepower.

The Hall-Scott 400 is readily capable of handling a 2000 gallon pumper — a size constantly in demand, but hitherto impractical for want of a sufficiently powerful engine. The reliability of the Hall-Scott 400 has been proved by more than a year's testing in heavy trucks over 500,000 miles of mountain roads. There were no major failures, and the cost of maintenance was far below that anticipated.

Like all other Hall-Scott engines, the unit design of the "400" allows any given unit to be removed for servicing, a spare installed, and the apparatus returned to service while repairs are made at the bench.

HALL-SCOTT MOTOR CAR COMPANY

A DIVISION OF AMERICAN CAR AND FOUNDRY MOTORS COMPANY

Factory and General Offices: 2850 Seventh Street, Berkeley, California

Factory Branches: SEATTLE, WASH. • PORTLAND, ORE. • LOS ANGELES, CALIF. • NEW YORK CITY

1-2-3--OUT!

Fire takes a fast knockout when PLUS-FIFTY DUGAS Dry Chemical comes into the picture. For PLUS-FIFTY DUGAS Dry Chemical brings you fire-stopping power of amazing swiftness, sureness.

As speedily as it strikes flames, PLUS-FIFTY DUGAS Dry Chemical releases a large volume of fire-smothering gases that quickly prevent small fires from becoming big ones. And PLUS-FIFTY DUGAS Dry Chemical is harmless to both men and machines.

PLUS-FIFTY DUGAS Dry Chemical comes to you ready for instant fire-fighting duty. Stays that way, too... won't deteriorate during storage.

Write us today for additional facts, along with priority information regarding DUGAS Fire Extinguishing Equipment.

Approved by Underwriters' Laboratories and Factory Mutual Laboratories.

PLUS-FIFTY duGas REG. U. S. PAT. OFF. DRY CHEMICAL U.S. PATENT NUMBER

MODEL 15 HAND EXTINGUISHER

CHART showing characteristics of all types of approved hand fire extinguishers sent FREE on request.

DUGAS ENGINEERING CORP.
OWNED AND OPERATED BY
ANSUL CHEMICAL COMPANY, MARINETTE, WISCONSIN

Amendment to Increase Firemen's Pay Endorsed by Scannell Club

The David Scannell Club, to which most San Francisco firemen belong, recently went on record as endorsing a proposed city charter amendment which would raise the pay of all firemen, regardless of rank, $25 a month for the duration of the war and six months after.

The action was taken after the new Fire Commission, headed by Charles R. Page, insurance executive, turned down the request of the Scannell Club that restrictions against off-shift work for firemen be relaxed. The commission's finding, in part, said:

"The commission had given most careful consideration to this request and has unanimously decided it cannot be granted in the firm conviction that members of the fire fighting forces cannot devote proper attention to the service, exert their greatest energy and full ability in performance of their duties in the Fire Department and at the same time engage in outside employment for wages. San Francisco is a key port in our country's war effort against the Japanese and this commission, not withstanding its real sympathy with economic difficulties of members of the departments, cannot adopt any plan which, to the best of its judgment, might imperil the safety of the city."

Despite an order forbidding outside work, many firemen and policemen had been working as longshoremen, driving trucks and as laborers in an effort to bolster their incomes to a point where they could at least try to keep up with the cost of living. Neither arm of the city service has had a raise for many years, consequently wages have been way out of line with increased living costs.

Several accidents along the waterfront in which off-shift firemen were involved focused attention on the situation and brought about strong action by the fire commission.

At the same time, The Fire and Police Commissions are supporting another charter amendment which would permit firemen and policemen to work overtime at their regular jobs and thus earn extra money. Such a plan, observers have agreed, would help solve the income problem for the men who would be allowed to work an average of four extra shifts per month and at the same time would give the city benefit of more "veteran" help. At the moment the Fire Department is 141 men short. In addition there has been a terrific turnover in "temporaries" with Mayor Lapham recently taking steps to halt the turnover by blanketing in all limited tenure men under the San Francisco retirement system. Lapham's action followed a recent opinion by City Attorney John O'Toole that men joining the police and fire forces under wartime conditions were prevented by the charter from receiving compensation benefits. The mayor's action raised the entrance age limit of applicants in both departments to forty-five years and was taken to protect the limited tenure men who could not be entitled to the retirement system benefits if they were over thirty-five when they joined the service.

In a public statement, Bob Callahan, secretary of the Scannell Club, said that firemen are allowed to work on their "offs" in many other cities, especially where the shifts are twenty-four hours on and twenty-four off. He added that Los Angeles firemen are allowed to work enough overtime to increase their income by 13⅓ per cent.

"San Francisco firemen used to be the best paid on the West Coast. That was as it should have been with the high hazards they have here. But now firemen's salaries in Los Angeles, San Diego, Oakland, Long Beach and Seattle are higher than ours. There are fewer firemen to do the work, hazards are greater and the cost of living has soared and we are not allowed to accept outside employment. Something must be done to aid the firemen."

The Scannell Club members recently voted by a close margin to not affiliate with the AFL's International Association of Fire Fighters.

BOB GREENOCK.

Texas Mayors Fatten Crows

The upper picture shows Mayor Woodall Rogers, of Dallas, Texas, and the crow "Little Otis," named for Mayor Otis Massey, of Houston, whom Mayor Rogers hopes will have to eat it.

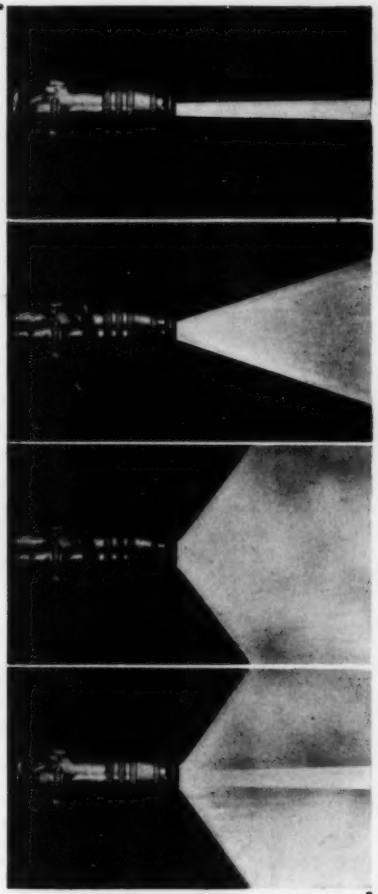
Below is shown "Rog," the Houston crow, named for Mayor Woodall Rogers of Dallas, who will have to eat it if his city is loser in the fire prevention contest with Houston.

As reported in a recent issue of FIRE ENGINEERING, Dallas and Houston are in a contest to produce the best fire loss record. The mayor of the losing city will literally eat crow. Each contestant, sure of victory, is fattening up a crow for his rival.

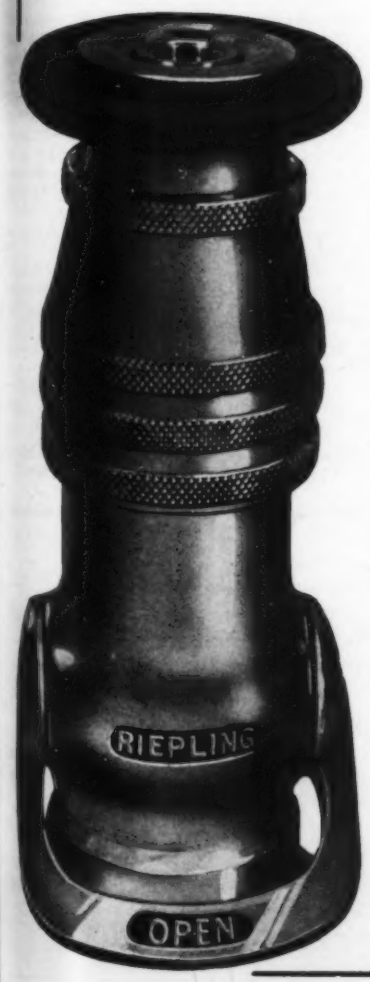
Evansville, Ind.—The Board of Commissioners of the Evansville Housing Authority recently adopted a resolution to supply more adequate fire protection for the various housing projects in the city of Evansville and in the county.

Any Stream the hoseman wants in an Instant!

Very often the man at the business end of the hose must make a decision *instantly* . . . and must get action *instantly*. He may be working with a solid stream when an emergency arises and he needs the protection of a water curtain. He can get it *instantly!* If he needs a fog, he can have it *instantly*. If he needs a combination of solid stream and fog, or solid stream and water curtain, he can have it *instantly*. In short, he can have any stream he wants, and he can switch from one to another *instantly*—



with ONE Nozzle . . .
The UNIVERSAL NOZZLE



Illustrated at right is the UNIVERSAL NOZZLE throwing (1) a solid stream, (2) a 60 degree fog, (3) a 130 degree water curtain, and (4) a solid stream with 130 degree water curtain.

Reduce Losses Increase Safety

Six years of practical use under every conceivable condition prove that the UNIVERSAL NOZZLE does reduce fire losses . . . that it does give added protection to the fire fighters. Made entirely of bronze, machined to the utmost accuracy for both efficiency and long life. Used by municipal fire departments, by the United States Army, Navy, and Coast Guard, and by hundreds of industries.

Write for the Whole Interesting Story

If you use fire hose, or sell it, you'll be glad you learned all about the UNIVERSAL NOZZLE. Inquiries are invited from dealers, fire departments, and industries. Write today to—

L. N. Curtis and Sons
Emergency Equipment
451 Hudson St. Oakland 9, Cal.

M&H

HYDRANTS
VALVES
and
Pipe Line
Accessories

A. W. W. A. HYDRANTS
Underwriters Approved

Conform to American Water Works Association specifications. Approved and listed by Underwriters' Laboratories and Associated Factory Mutuals. Well known and widely used for many years.

SPECIAL TRAFFIC MODEL (shown at right) is designed to yield at ground line under impact, repair being simply renewal of breakable bolts and breakable coupling on stem. Dry top, revolving head, easy to lubricate. High efficiency because barrel diameter not reduced and there are no working parts or obstructions in waterway.

VALVES: A. W. W. A. types, iron body, bronze mounted with double-disc parallel seat or solid wedge type. Non-rising stem, outside screw and yoke; or with sliding stem and lever. Also furnished hydraulically operated. Square Bottom type operates in any position. All are rugged and dependable, made of best material with highest quality workmanship.

M&H VALVE
AND FITTINGS COMPANY
ANNISTON, ALABAMA

For Practical Discussion of Current Fire Department and Fire Management Problems

REPLACEMENT PROGRAM FOR PNEUMATIC TIRES ON FIRE APPARATUS

THE war has brought another problem to the already burdened fire departments of the country. Heavy drains for war purposes on the rubber stocks of the country have meant the postponement of the replacement programs of fire departments for pneumatic tires on fire apparatus.

Prior to the war, fire apparatus tires were changed every three or four years regardless of the condition of the tires. Now some departments report that some tires have been on apparatus as long as eight years. However, a very rigid inspection program is in effect and in a number of cases the tires are inspected daily to make sure that their condition is safe.

Below are given the opinions of a representative group of fire chiefs from all sections of the country regarding replacements programs in force for pneumatic tires on fire apparatus.

Readers are invited to send in their comments on this subject, which will be continued in the July issue. Address communications to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Topic

A. J. Mullaney, Chief Fire Marshal, Chicago, Ill.: Some nine or ten years ago, we had a replacement program of all pneumatic tires on our heavy apparatus which would require the replacement of all pneumatic tires after three years of service, regardless of the mileage obtained. Mileage for such tires ranged from less than one hundred miles a year to not more than seven thousand miles a year. The cost of pneumatic tire replacement was becoming prohibitive and a survey was made on this program, all of the leading tire manufacturers having been consulted and requested to assist in the solution to the problem, but no concrete information could be gained whereby we could set up a different program.

It was decided, however, that after every six years tires would be replaced, but since the matter of scarcity and higher cost of tires presented itself, we have extended that program whereby the average age of tires on all of our apparatus at this date is eight years (and some tires fourteen years old are still in service).

In the past seven years, our records show that no apparatus failed to respond to fires on account of tire blowouts, nor have any tires blown on apparatus while standing on the apparatus floor.

We have a very rigid inspection program whereby the tires are inspected daily for cuts, rubs, abrasions, etc., and when any tires are reported by company officers to show any defects, they are immediately reinspected by the expert tire inspector from our shop. We have not gone into a re-cap or re-treading program as yet, except on my official car.

A. Brown, Chief, Birmingham, Ala.: Tire replacement on heavy apparatus is determined as follows: In stations making few runs, tires are replaced every five years. In stations making numerous runs, when the tread starts to get smooth, if there is stock enough we have the tires regrooved, and when this gets worn down we put on new tires. We find this plan works out very well where the apparatus makes enough mileage to keep plenty of life in the rubber. I do not recall ever having a blowout or puncture on a regrooved tire.

Tires removed after five years are turned over to the Street and Garbage Departments for use on their trucks.

On light apparatus (chief's car) tires are replaced as soon as treads show sign of wear.

On pick-up trucks used by carpenter and hydrant inspector, tires are not replaced until practically worn out.

Howard Travers, Chief, Baltimore, Md.: The Superintendent of Machinery

HERE IS THE PROBLEM

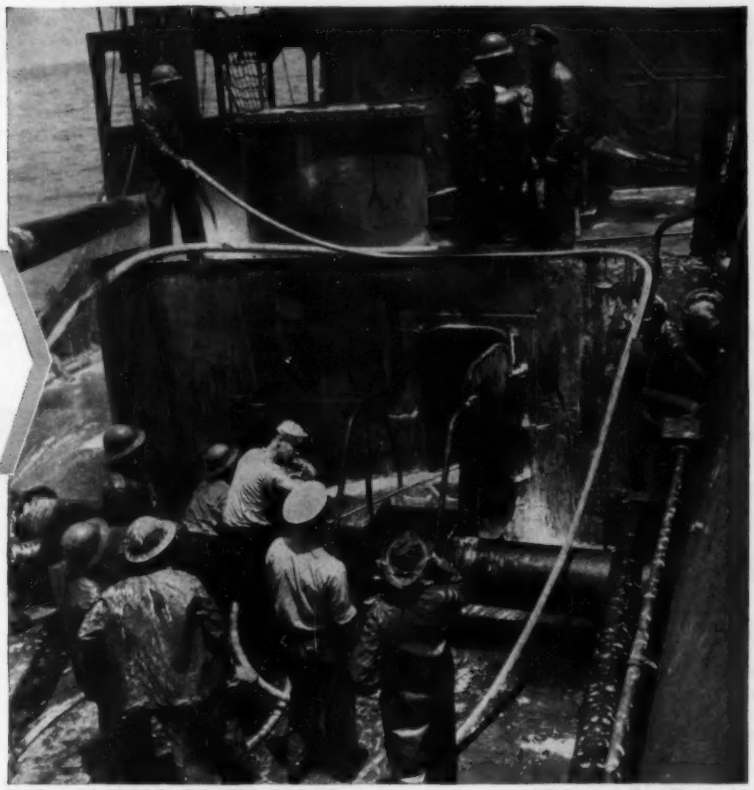
With regard to replacement of pneumatic tires on (a) heavy apparatus; (b) light apparatus.

1. How do you determine when tires should be replaced?

2. If a replacement program is in force requiring replacement of tires after a definite period of service, what period (in years) have you established?

3. How has your plan worked out?

FIRE and FOAM



Members of the Navy's Fire Fighters' School in their first experience at sea, bring under control and extinguish with foam a fire aboard a large American tanker

Official U. S. Navy Photograph

Fire occurs when fuel, oxygen and ignition temperatures are present in proper relation for combustion. The elimination of oxygen from the burning area is one of the most practical and quickest methods of extinguishment.

National Foam, by creating a gas-tight, free-flowing blanket, effectively eliminates oxygen and the cooling effect of the water in the foam helps to lower the temperature. The Foam Blanket also guards against possible flashbacks.

The U. S. Navy has adopted National Foams and are using them extensively, especially to combat oil and other particularly hazardous fires on land and sea.

National Foams are also used by most oil refineries and by rapidly increasing numbers in many other important industries.

Our engineers will gladly consult with you and advise regarding type of equipment which will most effectively meet your needs.

★

BACK THE ATTACK
BUY WAR BONDS

★

IN FIRE DEPARTMENT SERVICE

National Foam System has equipment especially designed for the use of Fire Departments to meet all types of fire fighting requirements. Complete engineering service available.

★

NATIONAL FOAM SYSTEM, INC.

Specializing in Foam Fire Protection

Packard Building, Philadelphia 2, Pa.

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

DUPOR Combination MASK and GAS-TIGHT, Fog-Proof GOGGLES

The fire-fighters' favorite! Water soaked sponge filters and cools breathed air. Water inside goggles keeps fog off lenses.

SAMPLE OUTFIT $4.50

H. S. COVER, 68 Chippewa St., South Bend, Ind.

THE *New* WHEAT
Rechargeable Spotlight

MODEL 158

2500 FOOT BEAM
25000 CANDLE POWER
1000 HOURS OPERATION

Critical Materials Reduced to a Minimum to insure Availability

FEATURES

★ Positive "non-spill" Construction
★ Less expensive Operation than dry cells
★ Free use of Hands. Light carries conveniently on Shoulder Strap
★ Weighs only 92 ozs. complete
★ Simple to Charge and Water No need to take Lamp apart
★ Light can be Focused and Directed as Desired

WRITE FOR COMPLETE DETAILS

KOEHLER MANUFACTURING COMPANY, INC.

THIS DISCUSSION WILL BE CONTINUED

Due to the large number of Chiefs who contributed their experiences, the discussion on this subject will be continued in the next issue.

passes on and determines when tires should be replaced on both heavy and light apparatus.

No general replacement program is in force as to replacement of tires after a definite period of service. Service depends upon condition of the tires.

The replacement plan is under the supervision of the City Purchasing Agent, Mr. J. Herbert Gaston, who purchases all tires, subject to the approval of the War Production Board, upon departmental requisitions.

The plan has worked out very satisfactorily.

J. C. McNally, Chief, Somerville, Mass.: Heavy apparatus tires are replaced in about six years, provided no weakness is apparent before that time. Light apparatus tires are replaced in about three years on the average.

Six years seems to take care of our situation insofar as our replacement of tires on heavy apparatus is concerned.

Thomas J. Phelan, Chief, Trenton, N. J.: We have a system of changing tires on all apparatus every five years, and we find this to be very satisfactory.

H. C. Root, Chief, Springfield, Mass.: For years we changed our apparatus tires every three years.

Our replacement program has been set back so that now we have tires that have been on four years. If possible, we shall change those this year. Our plan worked out very nicely with a three year replacement and we never had an accident under that schedule, so found it satisfactory.

I feel that running tires four years or more is taking entirely too much of a chance.

Leo B. Barry, Chief, Utica, N. Y.: We replace tires every four or five years unless cuts or bruises show up. In those instances they are replaced.

An annual inspection by the chief mechanic and an outside tire man is made of our tires. We never have had any kind of tire trouble between replacements.

H. D. Demonbreun, Chief, Nashville, Tenn.: Tires on all of our equipment, both heavy and light, are given regular inspections, and when any show wear or broken places they are replaced.

We replace tires that have been in service six years regardless of whether the tread shows wear or not.

This plan has worked very satisfactorily, as we have not had a tire blow out while in service or making fire calls.

William J. Sudeith, Chief, Saint Paul, Minn.: When tires show bad checks or cuts, they are replaced.

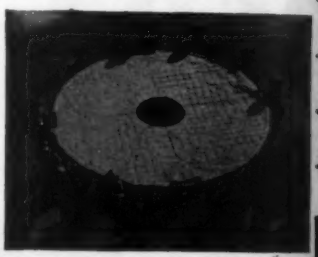
All tires are changed on heavy equipment after five years of service. Tires on light equipment are changed

ATLAS
LIFE NETS

"the finest," have been instrumental in saving many hundreds of lives, without injury to the person rescued or to the men holding the net.

The many exclusive features of the Atlas net have been proven through performance. ATLAS NETS are still available and are the only modern, up-to-date nets, with dual action impact absorbers.

Specify ATLAS when you want dependable life nets.



ATLAS SAFETY EQUIPMENT CO., INC.
26 Warren St. New York 7, N.Y.

QUAKER
FIRE HOSE
is Always Ready

Hose Chemical
•
Forestry Hose
•
Suction Hose

QUAKER QUALITY

REG. U. S. PAT. OFF.

QUAKER RUBBER CORPORATION
Main Office & Factory:
PHILADELPHIA 24
New York 7 - Chicago 16 - Cleveland 15
Houston 1
--Western Territory--
QUAKER PACIFIC RUBBER COMPANY
San Francisco 5 - - Los Angeles 21

THE FMC *Original* Fog Fire Fighter, originated and developed by Food Machinery Corporation, produces a dense fog which extinguishes the hottest fires as if by magic! This *different* fire fighting machine, delivering 600 pounds pressure at the nozzle, is a self-contained unit one man can operate single-handed! • The remarkable engineering skill and manufacturing resourcefulness that builds these Fire Fighters also created and manufactures FMC "Water Buffalo" amphibious tanks—weapons now helping the Army, the Navy and Marines smash the Japs on land and sea.

At right are shown a few representative products of Food Machinery Corporation, world's leading makers of food processing and packing equipment.

Anderson-Barngrover Division Complete line of machinery for canning foods. San Jose, Calif.

Sprague-Sells Division. . . . A complete line of machinery for canning foods. Hoopeston, Ill.

Niagara Sprayer & Chemical Co. . . . Insecticides for protecting crops from insects and disease. Middleport, N.Y.; Jacksonville, Fla.; and Burlington, Ont., Can.

Bean-Cutler Division. Sprayers, Dusters and Packing House Equipment for Fruits & Vegetables, Fog Fire Fighters, Turbine Pumps. San Jose, California.

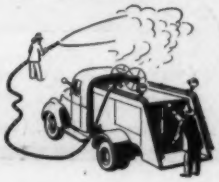
Texas Division . . . Protective Processes, Canning Machinery, Fruit and Vegetable Packing Equipment. Harlingen, Texas.

Florida Division . . . Citrus and Vegetable Packing Equipment, and Food Protective Processes. Dunedin and Lakeland, Florida.

Peerless Pump Division. Deep well turbines, hi-lifts & pumps handling water for every purpose. Los Angeles and Fresno, California; and Canton, Ohio.

Riverside Division. Citrus Packing Equipment, Automatic Box Making and Lidding Machinery, Fruit and Vegetable Protective Processes. Riverside, Calif.

JOHN BEAN MFG. CO. Fog Fire Fighters, Bean Royal Spray Pumps and Automotive Service Station Equipment. Lansing, Michigan.



FOOD MACHINERY CORPORATION

EXECUTIVE OFFICES: SAN JOSE, CALIFORNIA

when the treads show wear to the extent of becoming smooth.

This plan has worked very satisfactorily.

Edmund B. Lewis, Chief, Scranton, Pa.: Replacements of tires on heavy apparatus are made after seven years of service. Light apparatus tires are replaced when worn out.

It has worked out very well. Under our plan replacements are made before tires deteriorate to the extent that accidents may occur.

George E. McGaw, Chief, Fall River, Mass.: We replace tires on heavy apparatus after eight years of service. This plan has worked out very well.

Edward H. Siller, Chief, Yonkers, N. Y.: Tires are replaced after five years service. This plan has proved to be an excellent one.

George T. Morgan, Chief, Wilmington, Dela.: Condition and age determine when tires should be replaced. Our replacement program requires replacement of tires after five years service. This has proven satisfactory.

Martin J. Hayden, Chief, Bridgeport, Conn.: Pneumatic tires are much better than solid tires on both light and heavy apparatus. The apparatus handles easier and rides much better. The apparatus will last longer with pneumatic tires than with solid ones because of shock with speed used.

Replacement is judged by monthly inspections. It is ordered when it is judged so by inspector of apparatus for the safety of men and apparatus.

Edward J. Cannon, Chief, Norfolk, Va.: Due to regulations issued by the Office of Defense Transportation, we maintain complete tire records of all tires in use on our apparatus (all pre-war tires) and on our chiefs' cars. We are governed, in replacing the tires, by the amount of tread usable on tires. We make every effort to renew our smaller tires as soon as the tread begins to run slick, and on the fire apparatus, using the larger truck and bus tires, the same formula is used.

As you know, however, the deputy chiefs' cars will wear out tires much faster than the larger apparatus, due to the amount of running. The larger apparatus, not being used as much as the smaller cars, will not wear out tires as fast.

We have no definite time for replacement, other than the above, but always try to maintain our tires in a safe and thoroughly serviceable condition.

Incidentally, we have found that our tire records, and other information, are very useful when we find it necessary to replace worn tires.

Paul P. Heinz, Chief, New Haven, Conn.: Pneumatic tires on heavy apparatus are changed every seven years, or sooner if necessary, regardless of the outside appearance of the tire. Our experience has been that tires beyond this age are doubtful as to their safety and service.

Pneumatic tires on light cars, such as battalion chiefs', etc., are changed when treads are worn to the point where there is the slightest indication of skidding or slippage on wet pavements, etc.

The above program has worked out satisfactorily. We have had no serious tire problems, and no accidents due to

Back of every length of hose carrying the Cloverleaf trademark stands GOODALL'S reputation for *quality* that has won the confidence of the Nations' firefighters. *Reliability* . . . the greatest possible insurance against failure . . . is the goal toward which all GOODALL fire hose is built, and the millions of feet in service provide proof that this aim is consistently accomplished. The following grades are those most widely used.

CHEMICAL ENGINE OR BOOSTER . . .

"76" Brand — Wrapped construction "Stonewall" Brand—Molded and braided construction.

FIRE ENGINE SUCTION HOSE . . .

Style S-45—Smooth bore for fast suction. Highly resistant to crushing.

UNDERWRITERS' UNLINED LINEN . . .

"Atlantic" Brand—Yellow Label. Highest quality long-line flax.

"Pacific" Brand—Green Label. 100% pure tow flax.

GOODALL BOOTS and COATS . . .

"SSS" Boots—Rugged, long-wearing boots designed especially for firefighters. Strong wood "ladder shank" reinforcements in arches.

Puncture guards at shanks. Slip-proof soles. Felt lined.

"SSS" Coat—dull finish black rubber. Lightweight, comfortable. Length, 46". Sizes, 34 to 46.

DISTRIBUTORS WANTED

for GOODALL Underwriters' Unlined Linen Fire Hose. Profitable market for this high-quality, lightweight, pure flax hose. Write our main office, giving territory, other lines carried, etc. Full cooperation assured.

Contact Our Nearest Branch or Main Office for Details.

GOODALL COMPANY

GOODALL RUBBER CO. INC.

MAIN OFFICE — 6 S. 36th STREET, PHILADELPHIA 4, PA.
THE GOODALL-WHITEHEAD COMPANIES
Branches and Distributors from Coast to Coast

WE ARE PARTICIPANTS IN THE OWNERSHIP AND OPERATION OF NATIONAL SYNTHETIC RUBBER CORPORATION

Factory—Trenton, N. J. (Est. 1870) 74 Years of "Know How"—Our Most Valuable Commodity

blowouts from defective tires. The installation of power-vacuum brakes on our old equipment, I believe, has greatly aided our department in solving its tire problems.

Joseph H. Kirby, Chief, Dayton, Ohio: Heavy apparatus tires are changed every four years as that was the end of the factory's guarantee. However, existing conditions compel us to make them last longer. If the treads are worn out we have them recapped.

Tires on light apparatus are changed after six years or as long as the sidewalls appear safe.

This plan has worked out very satisfactorily.

G. W. Richardson, Acting Chief, Houston, Tex.: We determine when tires should be replaced by the length of time they have been used and by inspection.

Prior to the war, our program on heavy apparatus was to replace tires every five years unless they become damaged and it was necessary to replace them sooner. Our present program is an inspection every three months by a competent and reliable tire manufacturer's representative, who is an authorized government inspector.

The tires on light equipment such as sedan and coupe automobiles are replaced according to the number of miles driven and the condition revealed by inspection. The plan is working out very satisfactorily.

Albert J. Sullivan, Chief, San Francisco, Cal.: No definite plan has been set up in San Francisco for the replacement of pneumatic tires.

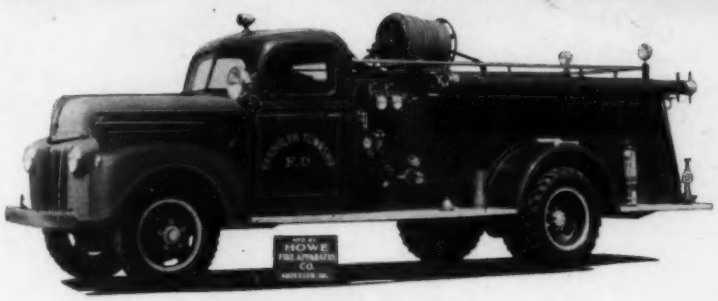
When a tire was run smooth and it was determined by tire experts that it should no longer be used, replacements were made.

At the present time a government agent measures the rubber on the surface and indicates when the tire should be replaced.

John H. Krusenklaus, Chief, Louisville, Ky.: There is no set rule for the replacement of pneumatic tires. However the expectation of the life of a tire should never exceed its guarantee. This is hardly applicable from many angles. Heavy duty apparatus tires are larger, heavier and can withstand harder usage when properly taken care of than can the tires on lighter apparatus. Again as to usage, certain pieces of apparatus due to their location in strategic parts of the city answer many more alarms of fire than those in other parts of the city. Therefore, each piece of apparatus has to be governed by its own individual performance. Its replacement can also be determined by its actual physical condition, such as treads becoming worn and surface slick, sidewalls cracking or deep abrasions caused by glass, nails, etc.

Our replacement program is governed by the above. In this connection our tires are checked and observed for any defects and when such does occur, we immediately replace with new ones. This is always anticipated and funds for such are included in each year's annual budget. By this method, we are always in a position to have good tires on all of our apparatus. This plan has proved very satisfactory.

"HOWE" Pioneer Builder of Fire Apparatus



Howe Fire Truck equipped with WATEROUS 500 G. P. M. Centrifugal Pump

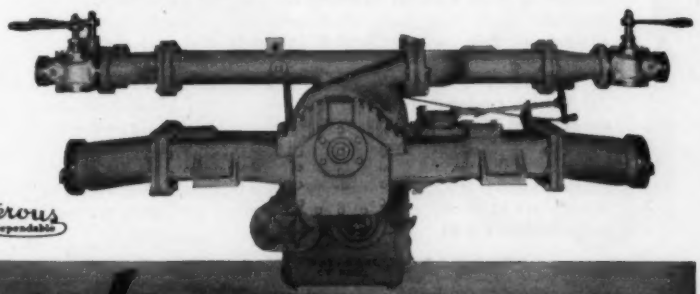
● Two-thirds of a century ago, Howe Fire Apparatus Co. began making hand drawn pumpers. Through decades of progress they have built quality apparatus that has served its owners well.

WATEROUS dependability is an important factor in building and maintaining the Howe reputation. For *your* fire engine . . . specify a Waterous Pump.

Literature on Request

WATEROUS COMPANY · ST. PAUL, MINNESOTA

Also Manufacturers of WATEROUS Fire Hydrants



WATEROUS

CENTRIFUGAL-ROTARY

FIRE PUMPS

M·S·A *All-Service** GAS MASK WITH MODEL S CANISTER . . .

Model S Canister with Standard Canister in background.

The M.S.A. All-Service Mask with Model S canister meets the fireman's respiratory protective requirements against poisonous gases, toxic dusts, mists, smokes, etc.—singly or in combinations (including carbon monoxide); is officially approved by the U. S. Bureau of Mines, and offers maximum comfort and convenience in service. Special features of the canister are its uniquely-designed large-area filtering element for smokes, dusts and fumes—of particular value under certain emergency conditions—and lower resistance to breathing.

The M.S.A. All-Service Mask is equipped with the famous All-Vision facepiece, which allows unobstructed vision at all angles, fits comfortably without drawing or binding, and affords a perfect gas-tight seal. Complete working freedom is permitted by the strong, durable harness, which is easily and quickly put on or removed.

Both the Model S All-Service Mask canister and the Standard All-Service canister are interchangeable in the harness. A strongly constructed fiber carrying case accommodates the mask equipped with either canister, together with a spare. To adapt All-Service cases now in use for the Model S canister, it is necessary only to remove a small fiber bracket. Write for complete details on the M.S.A. All-Service Mask with Model S and Standard canisters, in descriptive bulletin No. EA-8!

STANDARD MODEL ALL-SERVICE MASK

Providing protection for many years throughout the fire service against poisonous gases, smoke and fumes encountered singly or in combination—including carbon monoxide—the M.S.A. All-Service Mask with Standard Model canister is still available.

Officially approved (Approval No. 1405) by the U. S. Bureau of Mines.
*Trademark Reg. U. S. Pat. Off

MINE SAFETY APPLIANCES COMPANY
BRADDOCK, THOMAS AND MEADE STREETS · PITTSBURGH, PENNA.
District Representatives in Principal Cities

Otto Simmler, Inspector and Storekeeper, Philadelphia, Pa.: Replacement of tires on heavy apparatus is done as soon as tire begins to get bald-headed to prevent possible skidding. The same method is followed with lighter apparatus.

We constantly have a man detailed to take care of this particular work, such as checking tires. He makes a weekly inspection. On his recommendation, plus a double check by the office, the tires are replaced. To date, we will not permit recapping because of the experiences other trucks have had with recaps.

We have no replacement program in particular, other than keeping a close check and having any eruptions whatsoever repaired at once by a responsible tire concern.

This plan has worked out most satisfactorily.

* * *

The following replies are in answer to a previous question on off-duty employment of firemen:

Charles L. Slade, Chief, Des Moines, Ia.: I do not believe that firemen should be used in defense industries until it is absolutely proven that the war industry would suffer by their non-use and until the local firemen's union has so voted.

I believe the two-platoon system and the eight-hour day were established to give men well-earned time off. If we are to revert to working more time it would be better to apply it to the work of the fire department with better protection of the community and relief of the present manpower shortage in the department resulting.

The advantage of having firemen work in outside jobs, of course, would be to industry. The disadvantage is the difficulty of calling off-duty men to multiple alarm fires from their defense jobs.

City protection of firemen engaged in another occupation, in my opinion, would be an injustice to the local taxpayer. However, if men were granted permission to do other work, I believe our statute would cover them with pension.

George T. Morgan, Chief, Wilmington, Dela.: I do not believe firemen should be permitted to work at private employment when off duty.

They would be unavailable in an emergency and if working outside the department, they cannot give proper service.

I believe they should be deprived of all pension rights if injured while engaged in outside employment.

J. J. Evans, Chief, Everett, Mass.: I believe firemen should be permitted to take jobs in private industry during their off-hours.

The first advantage would be the financial gain to the men. With the increased cost of living, the wage scale has been increased in all occupations but the fireman's. The extra money he gets in defense industries will help for the duration of the war.

The second advantage is that it helps the manpower situation in war industries. We have hundreds of skilled hands in the various fire departments which should be used to help win this war.

I believe firemen should receive all the benefits the law allows. I don't see any difference between a man injured by an automobile or in a train accident and one injured in a defense plant, except that there is less chance of an accident in the defense plant, because of the Internal Security Program which the government compels all plants engaged in war work to follow.

John A. McCracken, Chief, Gary, Ind.: I believe firemen should be permitted to work in defense factories in their off-time. It makes them feel that they are contributing to the war effort by working in a defense industry.

The firemen also feel that the manpower commission should take this into consideration in awarding deferments, and greatly reduce the personnel change in the fire department. Due to the increased cost of living, it is very difficult for a man working on an annual salary to keep up with the continued rise of living costs.

The fireman should, of course, consider their fire department positions first and should make provisions to be released from such employment on an emergency call from the fire department.

Men working in defense plants should be entitled to full fire department pension rights, considering that they are contributing to the war effort. All men leaving the department for the armed forces are also protected by the fire department pension.

As this is strictly an emergency measure, it should be discontinued as soon as the manpower shortage ceases to exist.

Thomas A. Qualey, Chief, Medford, Mass.: As so much pressure was brought to bear on me to utilize the idle manpower of firemen on their off-time and as the men were willing to give their services in any way they could to win the war, I permitted them to work.

Any advantage of a fireman working on his off-time is a disadvantage to the fire department as the work on the outside is so different from the work in the fire department. He is more or less exhausted when he reports for duty in the fire department. The men are, however, very appreciative of the opportunity to earn some extra money to cover the rise in the cost of living. As this is a real emergency to meet, I felt that everything I could do to meet it should be done.

The question of whether a fireman injured while working at a defense job should be entitled to pension rights is a very difficult one to answer. If a fireman were injured so seriously that he could not resume his duties as a fireman because of that injury, in my opinion, a question of law would have to be settled. As the fireman is doing a civic duty, some objections might be waived on these grounds. It would also depend on whether he was receiving any protection at the plant where he worked at the time of his injury. I believe it might be an easy matter to disqualify him as far as the pension system is concerned. If he were a member who had been in the department for twenty-five years and who was sixty years of age or over, he could be pensioned at his own request under the Pension Act adopted by this city.

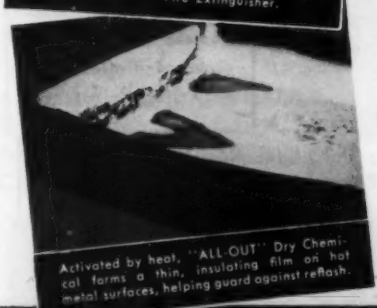
"ALL-OUT" GIVES GREATER "ALL-ROUND" PROTECTION

"ALL-OUT" begins its attack on a stubborn, hazardous, running gasoline fire. (See next picture below for efficient results.)

Two seconds later, the fire is out. Although gasoline continues to flow from the perforated tank, no reflash occurred.

"ALL-OUT" Dry Chemical, a non-conductor of electricity, is safe and effective on fires in heavy electrical equipment.

In six seconds this 10x10' pit of flaming oil and gasoline was completely extinguished by the "ALL-OUT" Fire Extinguisher.



Activated by heat, "ALL-OUT" Dry Chemical forms a thin, insulating film on hot metal surfaces, helping guard against reflash.

AGAINST INDUSTRIAL FIRES

Where hazards of flammable liquids, chemicals or fires in electrical equipment exist in your plant, "ALL-OUT" Dry Chemical Fire Extinguishers should be on hand for instant use.

Employing lighter weight for *maneuverability*...a "Squeeze-Grip" Nozzle for *positive control*... Dry Chemical *for faster, fire-killing action* and greater protection against reflash . . . plus a 5½ oz. charge of CO_2 to discharge a flat, *dense powder stream* over flaming areas to a distance of 18 feet, "ALL-OUT" *strikes fast!* It smothers dangerous, industrial fires in seconds. A non-conductor of electricity, non-toxic and non-corrosive, "ALL-OUT" Dry Chemical is harmless to personnel and machinery.

and Greater Economy too!

"ALL-OUT" requires no costly recharging equipment. CO_2 cylinders can be recharged in your own plant without pressure pumps, and replaced without special tools at the scene of fire. And because "ALL-OUT" Dry Chemical will not freeze, evaporate, or harden, it is always free-flowing and does not deteriorate.

Write today for this folder

Get the facts. Ask for a demonstration of the "ALL-OUT" Fire Extinguisher at your convenience.

NATIONAL POWDER EXTINGUISHER CORPORATION
DEPT. B, 50 ROCKEFELLER PLAZA
NEW YORK 20, NEW YORK

"ALL-OUT" "Fatal to Flame"

MIDWESTERN

Firemen's Combination

SUIT

RUBBER or CANVAS TYPE

Standard in Many Cities All Over America

The Coat . . .

Midwestern's No. 101 Fireman's coat is highly serviceable and popular in the larger municipal departments throughout the country. Flexible elastic inner sleeve for wrist to keep out water, cold and sparks; adjustable collar strap, detachable wool lining, Midwestern Safety snaps, two outside pockets, 6-inch storm flap and many othr · fine Midwestern qualities.

The Pants . . .

These Midwestern Bunker Pants are equipped with a removable wool lining which has safety snaps that cannot catch on anything. Sturdy construction, reinforced crotch for pole sliding. These pants together with coat illustrated above are Midwestern's outfit No. 101.

See your local Midwestern distributor for prices and literature, or write the factory.

This wool lining can be added to any Midwestern Bunker Pants at a small additional cost.

MIDWESTERN MFG. CO.

MACKINAW, ILL.

What's Burning

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of May, 1944. These figures, compiled from the telegraphic reports, are based on estimates made at the time and are subject to later investigation and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent losses in thousands of dollars.

Month Ending May 31	Losses in Thousands of Dollars
Chicago, Ill.—Banner Wholesale Grocers and bldg. damaged	80
Des Moines, Ia.—Bldg. used by Des Moines school board as store bldg. destroyed	50
Maynard, Mass.—Fashion shop and restaurant damaged	60
Nutley, N. J.—Factory bldg., dwelling, three other bldgs. near factory damaged	80
Brunswick, Me.—Eagle Hotel damaged	50
Big Rapids, Mich.—Glueing and office plant of Hood & Wright Mfg. Co. destroyed	80
Redmond, Ore.—Redmond Union High School damaged	50
Los Angeles, Cal.—Midwic Country Club bldg. destroyed	80
Lebanon, Pa.—Lebanon plant of National Radiator Corp. destroyed	1700
Atlanta, Ga.—Two-alarm fire completely destroyed jobbing stock of notions at warehouse of Lee Products Co.	50
Neponset, Mass.—Plant of O. G. Kelley Co. destroyed	125
Syracuse, N. Y.—Edwards apartment house damaged	50
McKeesport, Pa.—Warehouse damaged	50
Jacksonville, Tex.—Jacksonville Compress Warehouse destroyed	50
Edmonton, Alta.—Surface plant of Lakeside Coals, Ltd., 150 miles west, damaged	125
Montreal, Que.—Freight shed of Canada Steamship Lines damaged	425
Rutherford, N. J.—Plant of Quality Products Co. damaged	50
Eugene, Ore.—Coast Logging, Town Mapleton residence, business center destroyed	80
Everett, Wash.—Eclipse Lumber Co. destroyed	50
Los Angeles, Cal.—Hillcrest Country Club destroyed	115
Springfield, Ohio—Plant of Rhoades Paper Box Co., three adj. business establishments damaged	60
Ridgeley, Tenn.—Five houses, smaller bldgs., destroyed	50
Oklahoma City, Okla.—Combined junior and senior high school bldg. damaged	60
Yakima, Wash.—Barnes-Wood Dept. store destroyed	170
Shelton, Wash.—Shelton High School destroyed	60
Phoenix, Ariz.—Zuendel Box Co. factory, Pacific Freight Lines, destroyed	60
Marshalltown, Ia.—Barns on Central Iowa fair grounds, destroyed	50
Los Angeles, Cal.—North American Van Lines, Furniture Storage Warehouse, partially destroyed	60
Baltimore, Md.—Club house, indoor ballroom pavilion, at the Meadowbrook Swimming Pool destroyed	50
Battle Creek, Mich.—Grand Trunk & Western Railway warehouse damaged	125
Kittitas, Wash.—White Davany Co. feed mill, machinery, etc., destroyed	80
Anniston, Ala.—Southeastern Casting Co. plant damaged	50
Lancaster, Cal.—Haymill owned by Alfred C. Mueller, on Lyons ranch, damaged	60
Immokalee, Fla.—C. J. Jones lumber mill, light plant and kiln-dry destroyed	80
St. Severin De Proulxville, Que.—Nineteen houses destroyed	80
New Glasgow, N. S.—Business bldg. and adj. rooming houses damaged	50
Gloucester, Mass.—Cooler-plant owned by Union Cold Storage Co. damaged	50
Roxbury, Mass.—Warehouse on Parker Street damaged	80
Moravia, N. Y.—GLF Co.'s main bldg. damaged	80
Dallas, Ore.—J. C. Tracy Dehydrating Plant destroyed	60
Berwick, Pa.—Plant of Wise Delicatessen Co. damaged	300
Merkel, Tex.—Warehouse damaged	125

Classified Advertisements

Bids Wanted, For Sale and Help Wanted, $5 per inch. Position Wanted, $2.50 per inch

WANTED

Fire Equipment Supply Companies, to sell Morning Pride Protected Rubber Firecoats, with Wing Sleeves, Chest Protector, Face Protecting Collar, Wool Wristlets, Double Shoulders, No Dirt Pockets. Also Firepants and Mitts. Write Morning Pride Mfg. Co., 1986 Home Ave., Dayton 7, Ohio.

CHIMNEY POWDER

No need to send men on the roof for chimney fires. **Has-Mor** Soot Destroyer not only puts the fire out, it continues to work until it cleans the chimney, making it unnecessary to go back to another chimney fire. Put up in handy packages. Agents wanted. Harry S. Morgan, 52 Broad St., Johnson City, N. Y.

FOR SALE

"LaFrance Inhalator complete with dual equipment and baby mask. Never been used upon a patient. Make offer. Earl A. Brooks, Coatesville, Pa."

Princeton, N. J.—Princeton University gymnasium and prized trophies damaged	450
Issaquah, Wash.—Issaquah Lumber Co. destroyed	50
Laramie, Wyo.—Rock River High School bldg. 40 miles northwest damaged	50
Cedar Rapids, Ia.—Mill and elevator at the Wilder Grain Co. destroyed	50
San Diego, Cal.—Ice mfg. plant warehouse, five automobiles and six buses destroyed	170
Texarkana, Ark.—Vehicle Storage Warehouse of Red River Ordnance Depot, near here, damaged. Damage was chiefly to "rubber stock"	1,700
Grand Rapids, Mich.—Two-story bldg. housing the Vandenberg Bros. furniture store, damaged	80
Oroville, Cal.—Business bldgs. occupied by Savage Plumbing Co., Virginia cigar store, Ophir Meat Market, The Elite, The Armstrong Real Estate Agency, Harry Lin's, Oroville Poultry Market, American Red Cross headquarters, two electrical establishments, small businesses destroyed	80
Lackawanna, Pa.—Bethlehem Steel Co. plant damaged	125
Strathmore, Cal.—Bldgs. of G. Masselli & Son, Strathmore Oil & Fat factory, destroyed	200
St. Louis, Mo.—Main bldg. of Westwood Country Club destroyed	350
Youngstown, Ohio—Growers Market, destroyed	60
Tacoma, Wash.—Meyer Drug Co. damaged	50

On Military Leave

Sgt. Douglas J. Reich, on military leave from the New York City Fire Department, is now stationed overseas with the Engineer Fire Fighting Forces. After receiving his basic training with the Corp of Engineers at Camp Claiborne, La., he was assigned to an Engineer Fire Fighting Platoon. The Platoon received extensive training in problems of fire fighting arising through enemy action, and at the conclusion of the training period Reich was promoted to the rank of Sgt.

Besides his regular duties with the platoon, Sgt. Reich has taken part in several demonstrations for the benefit of fire fighters of the country where he is stationed. His present address is 1219th Eng. Fire Fighting Platoon, APO #134, c/o Postmaster, New York, N. Y.

R. L. Pooler.

Here's What They Say About

CIRCUL-AIR

THE AIR-CONDITIONING

FIRE HOSE DRYER

★ " . . . the operation was entirely as represented and we have every reason to believe it will be satisfactory and that we will purchase two more next year, one for each of our other houses."

Wilson D. Owens, Chief
Nyack Fire Department

★ " . . . it has never taken over six hours to dry saturated double-jacket hose . . . the boys in the department like it because it is easy to use and we would certainly recommend it to any department now drying hose the 'hard way'."

William C. Schumacker, Chief
Albion Fire Department

★ " . . . within 3½ hours all the hose was dry—ordinarily this would have taken 2 days.

"We want to assure you that we feel the money invested in this dryer was well spent and will pay dividends. We are glad to recommend it to any prospective buyers."

Herman J. Wierenga
Supervisor, Wyoming Township

★ " . . . it's the tops."

C. N. Hamilton
Bedford, Ohio

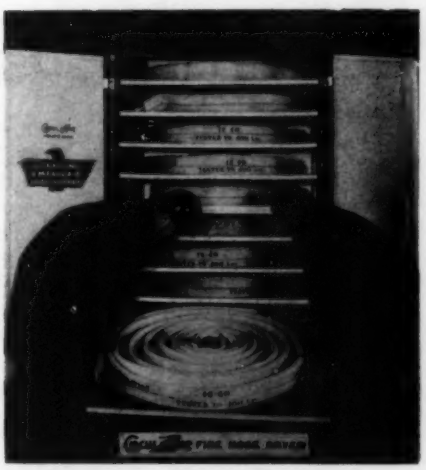
★

A Peacetime Asset

★ *SAVES* ★

building repair and construction cost—and improves new station design. Immediate delivery from stock.

A Wartime Necessity



Note Compact Size . . . and ease of loading and unloading.

CIRCUL-AIR USERS

Villages and cities of 500 to 1,500,000 population . . . Navy Yards, Army Camps, Air Bases, Chemical Warfare Service — Arsenals . . . and most of America's largest AIRCRAFT, TANK, ORDNANCE, SHIPBUILDING, ELECTRICAL, AUTOMOTIVE, TEXTILE and CHEMICAL FACTORIES.

THE CIRCUL-AIR CORPORATION
6339 East Palmer · · · Detroit 11 Mich.

"More Pressure"

When a fire hose is charged, or the pressure stepped-up, it is the fabric jacket—not the lining—which determines whether or not the hose will writhe, or twist.

For Eureka Ffre Hose, cotton cord, consistently high in quality, is woven on looms of exclusive design. This produces a hose covering of such uniformity that there is no tendency to "snake" under "more pressure."

Synthetic rubber must now be used for lining. Fortunately, long years of painstaking experimentation showed our scientists how to make lining for Eureka Fire Hose dependable, as always, while providing a smooth, flexible, leak-proof waterway.

If you have not yet received the valuable and important Eureka wall chart, "Directions for Care of Fire Hose", request a copy or copies today. There is no obligation.

EUREKA

EUREKA FIRE HOSE

Division of United States Rubber Company

1230 SIXTH AVENUE · ROCKEFELLER CENTER · NEW YORK 20, N. Y.

War Fare

Hot Off the War Ticker!

In a town in South Essex (England) an incendiary bomb fell through the roof of a house in a recent air raid. It started a fire which burned through a water pipe. Water gushed from the pipe and extinguished the fire (page Ripley!) . . . It is confidentially reported that Nazi radio guided bombs are a real threat against allied shipping; are scoring for the foe; present a problem for the Allied invasion forces. . . . **Fear of raids is beginning to haunt Japanese public. Air defenses are inadequate.** How do we know? Their own broadcasts admit it. . . . In Philadelphia the number of plant guards under direction of the Army has dropped from approximately 7,000 in July to 3,114 early in February; number of plants under Army supervision dropped from 650 to 323, according to the press. . . . Queen Wilhelmina of the Netherlands narrowly escaped death during February raids on Britain when a Nazi bomb crashed into her house in a London suburb, killing two guards. . . . In what appeared to be a last-ditch reprisal effort, Germany renewed bombings of London; twelve raids between February 1 and 24 caused heavy damage and casualties. . . . Death benefits have been awarded the widow of Ambrose B. Killen, 47, a warden, who was killed in Dover (Del.) by a fall while on way to duty at warning center at midnight. . . . The payoff!—Raymond McGovern, a 38-year-old fire watcher whose duties are to detect fires aboard docked vessels in Manhattan (N. Y.) area was fined $50 on charge of smoking in engine room of a ship tied up at Brooklyn pier. . . . In Washington (D. C.) winner of the city-wide contest to determine the best-drilled auxiliary fire unit went to Engine 21-A. George H. Markward, representing Civitan Club of the District, presented trophy to David Dryfuss, who captained unit during contest and Francis Brooke, present captain. . . . **Military statistics reveal that England's fire guards saved millions of dollars worth of property where fires were not caused by bombs.** . . . Serious war loss in Australia resulted when brush fires swept Gippsland district of Victoria's eastern province. Twelve persons lost lives, 200 houses destroyed, thousands of heads of stock killed. Fire also curtailed electric power supply. . . . In Lockport (N.Y.) a mouse caused a blast which threw approximately 1,000 employees of Harrison radiator division of General Motors out of work for the day. Varmint short-circuited an electric control panel. . . . Award of a medal to Lieut. J. F. R. Crews, in London (Eng.) revealed how he ingeniously rescued himself and two others from a blazing house during an air raid. Crews ripped a door from its hinges, placed a man and his wife on it, gave it a shove and jumped on. The door tobogganed down the stairs and out of the house just as the roof collapsed. . . . Rome radio is charging that British planes flying over the capitol dropped explosive pencils, lipsticks and powder bags on the streets, yards and docks. Deah, deah! . . . In Beverly (Mass.) according to one of our old Faithful readers, 12-year-old Dana Walsh, while playing the role of a Japanese in a game of soldiers, was tied to a stake by "Americans," kerosene was

sprinkled at his feet, and ignited. He was painfully burned before neighbors rescued him. His playmates fled! . . . A rampaging barrage balloon drifted into the midst of a group of Flying Fortresses forming over England for a bomb raid and caused considerable consternation. Two escorting Thunderbolts swooped down on the balloon, shooting it into the North Sea. . . . German controlled Oslo radio has repeatedly claimed the British now are using rocket guns to defend London against aerial attack. . . . The British merchantman Delius docked safely after a five-day, thousand-mile battle with a blazing cargo of cotton and peanuts set afire by enemy glider-bombers. . . . Folks of New Rochelle (N. Y.) were kinda skeered when a two-ton blockbuster bomb fell out of a trailer being towed by a jeep in a bond rally convoy, landed in street, skidded to curbing, jumped it, slid along sidewalk finally winding up against base of a cigar store. Report sez t'warn't loaded. . . . A man and his 5-year-old daughter were killed in London during an air raid, not by German bombs but by anti-aircraft shells. . . . A 30-mm rapid-fire anti-aircraft gun on a United Nations freighter anchored off Staten Island went haywire, laid down a barrage of 56 anti-aircraft missles, on Nixon Hill, Eard Hill and Grimes Hill two miles away. Three of shells exploded; 41 were found. Barrage caused little excitement. . . . A Vichy broadcast said fire razed a Hennessy distillery, destroying 12,000 gallons of cognac. How utterly, utterly *horrible!*

* * *

Cheering News for Hitler & Hirohito

Fire loss figures released by the National Board of Fire Underwriters for the first three months of 1944 totaled $115,936,000, an increase of $15,814,000 or 16 per cent over losses in the similar 1943 period. Losses reported in the 12 months ended March 31 aggregated $396,049,000 compared with $318,082,000 in the period a year ago.

So we're losing the fight on the home front! As a fraction of the evidence witness these items from the news of the day:

BALTIMORE, MD. — Spectacular 6-alarm fire destroyed block-long supermarket with loss estimated at $250,000 and millions of ration point values.

CHICAGO, ILL.—Lightning struck a powder magazine of Indiana Ordnance Works causing estimated loss of $40,000. No casualties, fortunately.

GLENDALE, CALIF.—Damage estimated at $500,000 was caused by a fire which destroyed 3 buildings at the Grand Central Airport, burned several planes and injured five workmen. Cause said to be explosion in paint department.

CORNWALL-ON-HUDSON, N. Y. — Fire which destroyed large portion of Cornwall Shipyard was controlled by firemen of five communities. Company making life rafts under war contract. Loss undetermined.

SILVER SPRINGS, MD.—Fire of "undetermined origin" caused damage estimated at from $35,000-$40,000 to Gruver Mfg. Co. and adjoining buildings. Plant making radio equipment for the army. No evidence of sabotage.

TRURO, N. S.—About 200 dancers made their way to safety when fire broke out in Truro Forum. Members of Army Provo Corps aided in removal of occupants. Loss estimated at $25,000.

BOSTON, MASS.—Fire destroyed the Frost

HEY! That's no job for a Hose....

Don't make a "mountain out of a mole-hill" by putting a hose-laying crew into action on a fire that could be put out easily with *INDIAN FIRE PUMPS.* Save time, money and effort by having *INDIANS* ready to use on rubbish, grass, roof, partition, room and awning fires.

INDIAN

Fire Pumps save Laying Hose on 40% of Your Calls

These back-pack extinguishers throw a 30 to 50 foot pressure stream strong enough to drive to the base of a flame and drown it out. No chemicals required. Just fill the 5-gallon tank with clear water and it's ready for action. Carried slung on the back, an *INDIAN* leaves the operator's arms free and enables him to move about quickly and direct a stream of water on the blaze. 5-gal. tank is rust-proof and air-cooled, preventing dampness and moisture reaching the back. INDIANS are just as effective on Class A *inside* fires as they are on *outside* fires.

Let us send you more information.

D. B. SMITH • 406 Main St. • UTICA, N. Y.

***Pacific Coast Branch:* Hercules Equipment & Rubber Co., 435 Brannan St., San Francisco, Cal.**

Roy G. Davis Co., 617 E. Third St., Los Angeles 13, Calif.
Carco-Conwhit Co., 520 S.W. Pine St., Portland 4, Oregon
Mill & Mine Supply Co., 2700 4th Ave. South, Seattle, Wash.
The Conwhit Co., Klamath Falls, Oregon

FOR VICTORY OVER FIRES

BUCKEYE LEADER LINE SIAMESE

Like all Buckeye fire fighting equipment, Leader Line Siamese are "action-tested." Furnished with two-plug type, quarter-turn gate valves, Leader Line Siamese are built for effciency. For complete details on *all* Buckeye fire fighting equipment, write

Buckeye

FIRE DEPARTMENT ACCESSORIES

BUCKEYE IRON AND BRASS WORKS

DAYTON 2, OHIO

SIRENO

PRECISION MADE ELECTRIC SIRENS

THE UTMOST IN DEPENDABILITY AND LONG LIFE

THE SIRENO CO., Inc.

214 WILLIAM STREET

NEW YORK CITY

SIRENO WITH 7" RED FLASHING LIGHT

Coal & Oil Co. yard and two adjoining private boatyards with estimated loss of nearly $500,000. Reported about 250 small craft of various sizes destroyed in the two boatyards.

COFFEYVILLE, KANS.—Nine persons were killed, nine others injured in series of explosions in the Cooperative Refinery. Resultant fire threatened entire refinery recently greatly enlarged.

PHILADELPHIA, PA.—Two men were killed, 5 injured in a six-alarm fire which followed an explosion at Atlantic Refining Co.'s Point Breeze plant. Blast blew pump house to bits, shaking ground for miles. Gasoline still and at least two 35,000-gallon tanks were destroyed. Cause unknown.

* * *

Comfort to the Enemy

News like the following cheers the Axis no end:

SAN FRANCISCO, CALIF.—Damage estimated at $1,000,000 was done at waterfront warehouse fire, and life of one fireman, an auxiliary, was lost, on April 1.

HASTINGS, NEB.—Reports in the press stated that three persons were killed, 12 missing and 35 hurt in explosion at the naval ammunition depot at Hastings (Neb.) when a box car being loaded exploded, causing an additional blast.

* * *

Peril Overhead

We continue to harp on the hazards attendant upon our increasing air traffic, as witnessed by the following capsule news items:

NORFOLK, VA.—Ten marines died in crash of two Navy bombers. Luckily these fell into Neuse River southeast of Cherry Point (N. C.).

PHOENIX, ARIZ.—Six hundred school children at play in Phoenix school escaped serious injury when a medium bomber approaching nearby airfield clipped off power line and crashed in the yard. Two of plane's occupants were killed. No fire, luckily, but two youngsters suffered minor injuries from flying fragments.

NASHVILLE, TENN.—Five Army flyers were killed when huge CO47 cargo plane crashed and burned on hill 30 miles southwest of Nashville.

ST. INIGOES, MD.—Two Army flyers were killed when their plane crashed and burned in a woods (had woods been dry a serious fire would have resulted).

GREENVILLE, S. C.—Nineteen men were killed when three B-25 Mitchell medium bombers of a bomb group collided and crashed at Army Air Base. Flying low, in formation, they crashed just after flying over a bomber group in the field. Flames were seen before craft struck the ground. All aboard were killed. Observers said two planes rammed wings, burst into flames and both fell upon another plane, bearing it to earth.

MEMPHIS, TENN.—Twenty-four occupants of an American Airlines Transcontinental plane were killed when plane plunged into river near city. Swift currents of the Mississippi hindered recovery of bodies.

BLAIRSTOWN, N. J.—Twelve flyers aboard a Flying Fortress were killed when plane crashed in remote section of the Kittatinny Mountains, exploded and burned.

Dominion Chiefs to Meet

The Dominion Association of Fire Chiefs will hold its Thirty-sixth Annual Conference at the Chateau Frontenac in the City of Quebec, on July 11-14. Chief James Armstrong, Box 56, Kingston, Ont., is Secretary-Treasurer of the Association.

Manufacturers' Announcements

Personnel Changes in Boston Woven Hose & Rubber Company

Owing to ill health, A. C. Kingston, Vice President and General Manager of the Boston Woven Hose and Rubber Company, has relinquished a large part of his duties, and has been appointed Consultant to the President on matters of sales policy.

H. F. Maxon, who has been District Sales Manager of the New York and Pennsylvania districts for the past seventeen years has been appointed General Sales Manager of the Company, and assumes his new position with a wide knowledge of product application as well as field experience.

W. I. Lewis, who has for the past twelve years been assistant to the General Manager has become Assistant General Sales Manager, in which position his complete knowledge of distribution and operations will be utilized to the fullest.

W. F. Carroll, who has been resident representative in the Philadelphia district has been appointed District Sales Manager succeeding Mr. Maxon. Mr. Carroll's long experience with the company will enable him to efficiently carry on his duties in this wider field of operation.

Walter Kidde & Company Acquires Assets of Ingas

Purchase of the business assets and good will of the U. S. Fire Protection Company, makers of Ingas gas-generating systems, formerly of Hoboken and Milwaukee, was recently announced by Walter Kidde & Company, Belleville, N. J. Interesting new applications for post-war use will be developed through the redesigning of the device to combat hazardous conditions in many manufacturing and processing industries where flammable materials, combined with vapors or dust, are of a combustible nature and highly explosive.

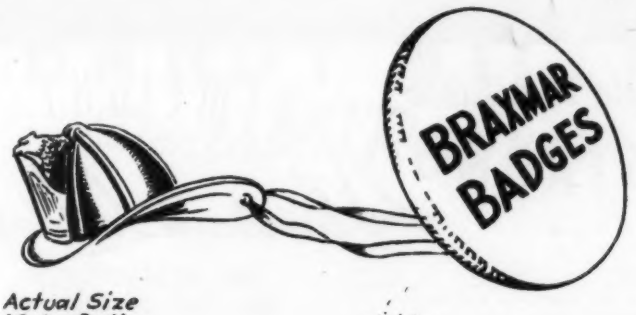
The systems produce an inert gas containing 12.9 per cent carbon dioxide, .3 per cent oxygen and the balance nitrogen, compressed to 300 pounds per square inch and piped to hazardous spaces, and may be widely used for fire and explosion prevention in the oil industry, in the manufacture of paints, varnish, film, rayon, in rubber factories, flour mills, and on grinding and conveying apparatus.

Ray Austin to Handle Montana-Wyoming District for Dugas

Service and distribution in connection with Dugas fire extinguishers and "Plus-Fifty" Dugas Dry Chemical in the Montana and Wyoming districts will henceforth be handled by Ray Austin of Wyo-Mont Distributors, Billings, Montana, according to a recent announcement of the Dugas Engineering Corporation, Marinette, Wis.

Mr. Austin is widely known in the new Dugas territory he now serves, having been district manager of Dowell, Inc., covering Wyoming, Montana, and Alberta, Canada, for a period of several years.

Our Little Red Hats



Actual Size
(Color Red)

are Still at War!

We are proud to say "Our Little Red Hats Are Still at War," and we know our many good friends who have looked forward to bringing these familiar little souvenirs home to the kiddies, will bear with us. The vital tin that would normally go into these hats is still urgently needed to further the war effort.

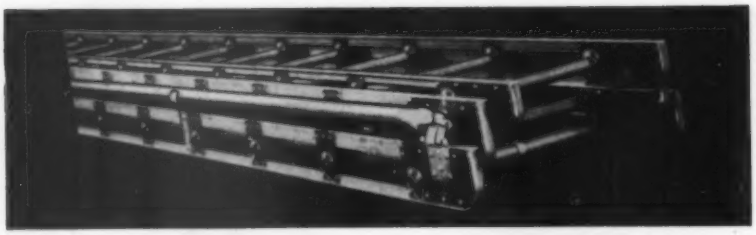
However, we can still furnish our friends with the fine, superior-type badges that have become a by-word in fire departments all over the country. All our badges are now made of sterling silver, sterling silver gold plated, rolled gold on sterling silver and 14 karat gold.

★

The blue covered catalog is the latest published, but write for our new price list. Only prices in the catalog on 14 karat gold items are still in effect. All auto plates are discontinued for the duration.

C. G. BRAXMAR CO., Inc.
242 W. 55th St., New York 19, N. Y.
John O. Veit, Pres.

BRAXMAR BADGES
Standard for over 64 years



Again Available
STRONG-LIGHTWEIGHT
Aluminum Ladders

★ Reallocation of aluminum by the government permits the manufacture of a limited number of fire department and industrial ladders. The three section, aluminum, heavy duty extension ladder illustrated is type 3 EL. Its unusual strength combined with remarkable light weight makes it one of the most popular fire ladders ever designed. Because of these characteristics . . .

. . . a 65 foot ladder of this type can easily be raised by four men and a supervisor — an impossible feat with ladders not made of aluminum.

FOR GREATER SAFETY AND EASE OF HANDLING

The locks operate automatically at any desired point during ladder extension. The rope and flexible cable are arranged for simultaneous automatic extension of both flies.

★ ★ ★

Write for information on standard sizes and aluminum ladders built to specifications.

Aluminum Ladder Company

200 Carbis Street
Worthington, Pennsylvania

ORDER EASTMAN FITTINGS
through your supplier*

WE have a complete line of hydrant gates, siamese, adapters, suction strainers, holders, reducers, runningboard flanges, hose caps and connectors.

* When ordering, specify whether pin lugs, long handles or Eastman ear lugs are desired.

SAMUEL EASTMAN COMPANY, Inc.
CONCORD, N. H.

Smoke Detector Developed by C-O-Two Company

Fire in the cargo space of an airplane can now be detected automatically by means of a smoke detector developed by research engineers of the C-O-Two Fire Equipment Company.

Any trace of smoke in the cargo space causes the detector to warn the pilot by lighting a red lamp on the instrument panel and sounding an alarm. If the space is protected by a built-in carbon dioxide fire extinguishing system, the pilot simply pulls a lever on the instrument panel, and the space is immediately filled with the gas.

The C-O-Two Aircraft Smoke Detector has a very small and light-weight cabinet into which air is constantly forced by a blower or by an exhauster which makes use of the air currents caused by the flight of the plane. Smoke particles in the air stream automatically actuate the mechanism that sounds the alarm and lights the red lamp.

Buyers' Encyclopedia Available

A Buyers' Encyclopedia featuring more than 500 separate items in the industrial maintenance, safety, and fire protection fields is offered by the General Detroit Corporation, 2200 East Jefferson Ave., Detroit 7, Mich., manufacturers of fire fighting and allied equipment since 1905. Profusely illustrated, this forty-eight page book will be of interest to municipal and manufacturing executives and others concerned with police protection, plant security and purchasing.

An unusual feature of the book is the factual data it contains on such subjects as sizes and types of hose threads, nozzle and fire stream data, information on proper maintenance of fire hose, types of extinguishers and fires for which they are best suited, information on the proper care of ladders, and kinds of fires.

Extinguisher Maintenance Booklet Offered

The latest addition to the manuals published by Walter Kidde & Company, fire fighting equipment manufacturers, is entitled "Inspection and Maintenance of First Aid Fire Extinguishers." This twelve-page booklet is graphically illustrated throughout with drawings, photographs and simple charts. A basic maintenance system is outlined, including questions of supervision, record-keeping and recharging of all types of extinguishers. The importance of actual demonstrations in fire fighting techniques is stressed. This manual may be obtained without charge from Walter Kidde & Company, Inc., 140 Cedar Street, New York 6, N. Y.

Definite Proof

Tom Magner, our Connecticut correspondent, tells the story about the Bridgeport fireman who was stopped by a state trooper and ordered to pull over to the curb for a little heart-to-heart talk.

"The fireman," says Magner, "was in for a 'pinch' as he was doing about 65 when the copper nailed him. He was very polite when the minion of the law started to question him.

"Where ya goin', to a fire?" asked the state policeman.

"Well, not exactly," replied the fireman. But I do happen to be a fireman. See, here's my badge."

"Badges—badges. Just a hunk of tin," came back the cop. Ev'rybody on the road has a badge. How do I know that badge is yours?"

The fireman dug into another pocket and pulled out a membership card in his local firemen's society. The cop looked it over.

"Cards don't mean anything. Gotta show me some real means of identification before I'll talk 'business' with you, buddy," insisted the man on the motorcycle.

The fireman was almost on the verge of giving up when a happy thought struck him. He opened his coat and pulled out a half dozen envelopes and opened them.

"See these, officer?" he said. "This one's a bill from my tailor, Max Schwartz. I owe him $11.75. Here's another from the Sympathy Loan Corporation. I owe them $102. This one in the green envelope is from my landlord. He's hounding me for last month's rent——

"Just a minute," the cop broke in.

"You owe all them bills? That's proof enough that you're a fireman. Get on your way and don't let me get you again for burning up the road!"

Westinghouse Plant Has Good Fire Record

A carefully planned system of fire prevention and fire control is responsible for the good fire record at the East Pittsburgh Works of the Westinghouse Electric and Manufacturing Company, according to Mr. A. C. Streamer, Vice President.

Mr. Streamer stated that the fire department at the plant had 130 fire calls where no loss was involved and nineteen calls involving fire loss during the first eleven months of last year, although 5,800,000 feet of floor space and more than 175 acres of ground space had to be watched.

The training of a large organization of volunteer firemen among the regular workmen at Westinghouse was credited by James A. Stover, the plant fire marshal, for the company's fire record.

"These workmen," said Mr. Stover, "jump to the telephone at the first warning of fire near their bench and report to the plant fire department. Then they dash back to the scene and frequently have the fire extinguished, with the help of available fire fighting equipment, before we arrive."

All burning and welding operations at Westinghouse are inspected before the jobs are permitted to begin. This inspection is done by a staff of twenty-four company fire inspectors. Special precautions are taken at other spots where there are possible fire hazards.

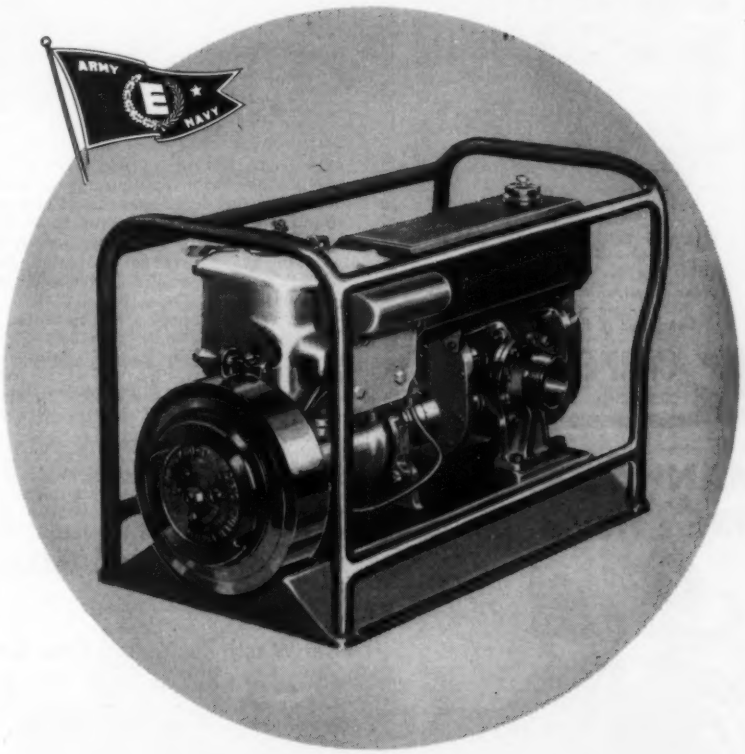
The shops are protected by automatic sprinkler systems. In addition, the company has two pumper outfits, one 750-gallon-a-minute ond one 500 gallon, portable hose carts, hand extinguishers, foam extinguishers, and generators, foam engines and soda acid engines.

The normal crew of 300 trained firemen has been augmented to 450 men since the war started.

Pacific

HANDY BILLY

Portable Pumper



The principles of design and precision manufacture that have made the Pacific Handy Billy such an effective fire fighter for the Navy will, in due course, be available to protect forestry, industry and shipping against the ravages of fire.

Fire Fighting Equipment Division

PACIFIC MARINE SUPPLY COMPANY

SEATTLE, WASHINGTON

NOW, SPEED TO FIRES IN

SAFETY WITH AN 06 MASTER-LIGHT!

Chief, let this light show you that "Wig Wag MASTER-LIGHTS" mean *faster, safer, quieter* runs! Powerful sweeping red beam warns traffic 1,000 feet ahead—clears way in any weather. Fixed lamp head cannot stick in snow or sleet. Effective even in daylight!

CLEARS YOUR SIDE OF STREET

Write now for new free Fire Chief Folder illustrating MASTER-LIGHTS.

Send for free Folder NOW!

CARPENTER MFG. CO.
200 Sidney St., Cambridge, Mass.

W. J. Coleman Dies

William Joseph Coleman, 68, Potsdam, New York, superintendent of the New York State Firemen's Home at Hudson, and for over forty-five years connected with firemanic organizations in New York state, died on Feb. 13, 1944 at Hudson. Ill for two weeks, he suffered a stroke ten days before his death.

Mr. Coleman during his career as a volunteer fireman had held a number of important positions, having been president of the St. Lawrence county and New York State Association of Volunteer Firemen, the latter for a two year period.

A native of Maxville, Canada, he moved to Potsdam in 1894 and for a few years conducted a blacksmith shop.

Known to nearly all of New York state's volunteer firemen through his connection with the Firemen's home and attendance at numerous gatherings, Mr. Coleman had a wide circle of friends. His first fire department affiliation was in June, 1898 when he joined Relief Hose Company No. 3 of the Potsdam organization. He became chief in 1908 and served four years, maintaining an active interest in the department as it changed from horse drawn apparatus to motorized equipment. Mr. Coleman joined the Jefferson-St. Lawrence Counties firemen's association and in 1918 was elected its president.

In 1908 Mr. Coleman was accepted as a member of the state firemen's group and served on numerous committees and in various offices until he was elected president at the annual meeting in Niagara Falls in 1927. He was re-elected the following year.

Following the death of Robert J. Hale, former Watertown fire chief, Mr. Coleman was appointed superintendent of the state firemen's home in 1932 and held that position until his death. Mrs. Coleman was matron of the home.

Sanford D. Dewey.

HOSE BRASS GOODS
WB LINE
THE WOOSTER BRASS CO.
WOOSTER, OHIO

The Invasion of Fire can be combated more efficiently with "TRUMPET" BRAND FIRE EQUIPMENT.

THE WOOSTER BRASS CO.
WOOSTER, OHIO

When you specify products bearing the TRUMPET trade mark you can SAVE and BANK on SAFETY.

MANHATTAN FIRE HOSE

with FLEXLASTICS* *Lining*

... Flat-Folding for compact rolling and easy handling ... Pressure-Tested, under high pressure ... now made with FLEXLASTICS Lining for longer Service life.

Also made Radio-Active Treated, Mildew-Proof, Rot-Proof and Freeze-Proof.

*The term FLEXLASTICS is an exclusive MANHATTAN trade mark. Only MANHATTAN can make FLEXLASTICS.

KEEP AHEAD WITH MANHATTAN

THE MANHATTAN RUBBER MFG. DIVISION
of RAYBESTOS-MANHATTAN, INC.
Executive Offices and Factories, Passaic, N. J.

Vital Waste Paper and Tires Burn

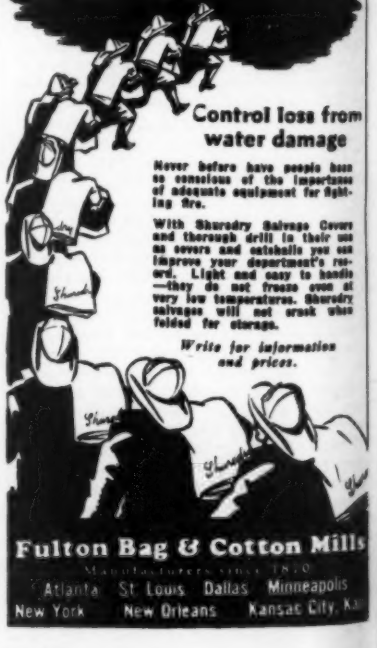
During a heavy storm on Saturday morning, March 4, a five alarm fire destroyed two buildings whose contents are vital to the war.

Starting in the twenty-five by two hundred foot one-story brick building of the Pioneer Rubber Waste Company in Philadelphia, Pa, the fire spread very rapidly. By the time Engine Company 26 had arrived on still alarm from its station one square away, the fire was out of control and the officer in charge had to order a box alarm, which was received by the fire department at 8:51 a. m.

When the battalion chief arrived on the still alarm, he found that the fire had gone through an open window into the four-story brick building of the William Lemley Waste Paper Company. Seeing this, he ordered the third alarm at 8:56 a. m., the fourth at 9:06 a. m. and the fifth at 9:13 a. m.

These buildings were of old wooden and brick construction without sprinkler systems, standpipe systems or fire stops. The outcome was that the fire department had to concentrate on saving the surrounding buildings and let the two involved by fire burn. The third and fourth floors of one building had already been condemned by the building inspec-

USE Shuredry SALVAGE COVERS



Control loss from water damage

Never before have people been so conscious of the importance of adequate equipment for fighting fire.

With Shuredry Salvage Covers and thorough drill in their use as covers and catchalls you can improve your department's record. Light and easy to handle—they do not freeze even at very low temperatures. Shuredry salvages will not crack when folded for storage.

Write for information and prices.

Fulton Bag & Cotton Mills
Manufacturers since 1870
Atlanta St Louis Dallas Minneapolis
New York New Orleans Kansas City, Kan.

tors some time ago, and the Chief Engineer would not let his men enter the buildings involved.

No fireman was seriously hurt, but about fifty were treated for smoke, or exposure.

At about 10:30 p. m. that evening, part of the back wall of the four-story building gave way and seriously injured one fireman who was on the detail wetting down the ruins. Four nights later the west wall gave way and crashed into an adjoining foundry.

Air Conditioning Systems Fires Can Be Prevented

"Air conditioning system fires, like those of the automobile in its early days when the car which didn't burn up was usually the one which won the road race, will be largely eliminated when the causes are fully understood," said John Neale, Chief Engineer of the Underwriters Laboratories, Inc., Chicago, recently, in a paper presented before the Northwest Fire School held in St. Paul, Minn.

"Loss of life and property has resulted from air conditioning system fires but can be prevented in the modern air conditioning system," the speaker said, "by proper design and maintenance and the use of such safeguards as fire-resistive air filters tested by Underwriters' Laboratories, noncombustible ducts, fire-resistive duct linings and insulation, automatic fire shutters in the duct systems to prevent the spread of fire, and electric eye smoke detectors coupled with alarm systems and electrically connected to shut down the system when fire breaks out.

"Smoke, as well as fire, introduces a panic hazard," Neale said. "This is particularly serious as air conditioning systems are usually installed in public buildings where crowds are present."

Screening of the intake openings, frequent cleaning of the ducts and proper location of the intakes well above the floor level will help prevent accumulations of all manner of combustible trash and lint in the ducts, Mr. Neale advised.

One-Third of Fires Extinguished by Fire Departments with Hand Equipment

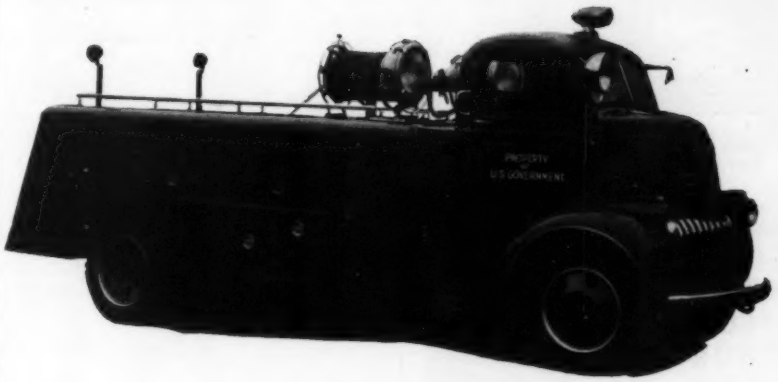
A survey of fire department practice, recently completed by Safety Research Institute, indicates that about one-third of the fires put out by municipal fire departments in the United States are extinguished with hand equipment. Of the fires extinguished before the arrival of the fire department, about seventeen per cent are known to have been put out with hand extinguishers.

The survey reveals that 41,657 fires were extinguished during the year 1942 by the 191 fire departments participating in the survey, 28,033 with heavy equipment and 13,624 with first aid equipment. In these same cities, 3,140 fires were put out by persons on the scene before the fire department arrived.

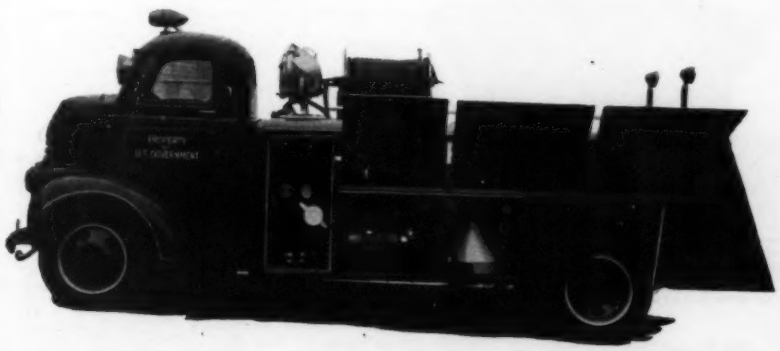
Nine of the fire chiefs represent cities with over 100,000 population; sixteen represent cities of 50,000 to 100,000; thirty-five, cities of 25,000 to 50,000; sixty-three cities of 10,000 to 25,000; and sixty-eight cities of less than 10,000 population.

Built by

CENTRAL



Illustrated is a combination pumper and emergency truck designed for use in a large Government reservation. Cab over engine chassis is used for mobility and turning radius without sacrificing body capacity. Streamlined compartments contain acetylene cutting equipment, self-contained breathing apparatus, gas masks, asbestos suits, first aid kits, burn kits, salvage covers, electrical tools, utility tools, stretchers, blankets, heat pads, foam generator, various types of fire extinguishers, hand lanterns, pike poles, ladders, and a 1,250 Watt self-contained generator with flood lights and extension cords.



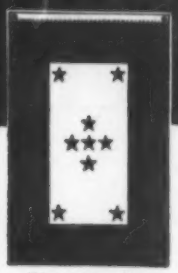
Let our engineers design fire equipment fitted to meet any special requirements you may have.

"Everything for Fire Fighting"

CENTRAL FIRE TRUCK CORP.

3929 LACLEDE AVENUE ST. LOUIS, MISSOURI

HONOR YOUR SERVICE MEN



Blue stars, white panel, field of red. Send for catalogue.

Honor your fellow-firemen now serving with the armed forces, by displaying this official

SERVICE FLAG

One star for each one in service. Available in any size or material desired. Send for Free illustrated catalogue and price list today.

Permanent ROLL OF HONOR

A permanent plaque, with individual names in silver on gold-bordered permanent name plates. Beautiful walnut plaque with eagle and victory torches. Write for price list today.

Also U. S. and Allied Flags in all sizes. Write for prices.

REGALIA MFG. CO.
Dept. 96, Rock Island, Ill.

WENTWORTH FIREMAN'S UNIFORM CAPS

UNION MADE PROMPT DELIVERY

No. 342

Wentworth Fireman Caps are made of the Highest Quality Standard Materials available and by the Best Skilled Union Craftsmen in all the New and Standard styles. Our 47 years of experience and skilled workmen guarantee you AMERICA'S GREATEST CAP VALUE in all WENTWORTH FIREMAN CAPS.

No. 441

Write direct for latest circular and prices or see your local dealer.

WENTWORTH-FORMAN CO., INC.
578b Washington St., Boston, Mass.
Manufacturers
Fireman Cap Specialists for Over 47 Years

Dairy Farm Destroyed by Fire

Two large dairy barns and a milk house on the Ford O. Rundell farm at Black River, N. Y., were destroyed by fire of unknown origin on April 7, 1944. Nine cows, a calf and a bull burned to death in the flames which, for a time, threatened six nearby buildings in the village of Black River.

The loss included 550 bales of hay and considerable farming equipment. Three cows and a horse were freed from the blazing structure.

Volunteer firemen from Black River were summoned and later assistance was requested from the fire department at the Pine Camp military reservation. Pumpers from the two departments were placed in operation at hydrants, using 1,200 feet of two and a half inch hose to reach the fire and then utilizing siamese outlets. The Black River department was on the scene nearly five hours while Pine Camp firemen remained two hours until the blaze was under control.

The two barns destroyed were built in an "L" shape, one being approximately 120 feet long and 40 feet wide and the other 90 feet by 26

SANFORD D. DEWEY.

When a Wolf Is Not a Wolf

Aside from her duties as President of the Oren Fire Apparatus Company at Roanoke, Va., Mrs. Kathryn Lemon Counts, 34-year-old head of that Virginia firm, is quite proficient as an after-dinner speaker and a master of ad lib.

A few weeks ago Mrs. Counts was on a visit to nearby Richmond and while there was invited to address a local women's club on her experiences in connection with the building of fire apparatus.

During the discussion, Mrs. Counts related a story she had heard about the heroism of a fireman named Wolf.

At mention of the fireman's name someone in the audience snickered.

Mrs. Counts heard the snicker and countered without a moment's hesitation.

"Isn't it delightful," she sighed as she broke away from her subject, "that once upon a time Wolf was a man's name and not his description?"

THOMAS F. MAGNER.

Convention Dates

June 27-29—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. Annual meeting, Dixville Notch, N. H. Secretary, Chief John W. O'Hearn, 99 Main Street, Watertown, Mass.

July 11-14—MICHIGAN FIRE COLLEGE. Univ. of Michigan, Ann Arbor. Secretary, Professor George M. McConkey.

Aug. 7-12—PENNSYLVANIA FIREMEN'S TRAINING CONFERENCE. Annual meeting. Lewistown, Pa. Secretary, Chief Charles E. Clark, Box 271, Wayne, Pa.

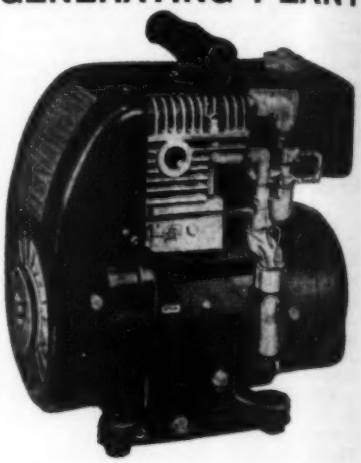
Aug. 15-17—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. Annual meeting. Secretary. Chief Jay W. Stevens, Merchants Exchange Building, San Francisco, Cal.

Aug. 28-31—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual meeting, Grand Rapids, Mich. Secretary, Chief Daniel B. Tierney, 8 Robbins Road, Arlington, Mass.

Sept. 16—NEW JERSEY STATE FIREMEN'S ASSOCIATION. Annual meeting, War Memorial Bldg., Trenton, N. J. Secretary, Fred A. Trowbridge, 602 Chamber of Commerce Bldg., Newark 2, N. J.

Oct. 2-4—INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. Annual meeting, Boston, Mass. Secretary, Irvin Shulsinger, 8 East 41 Street, New York, N. Y.

PORTABLE
FLOODLIGHTING
GENERATING PLANT



This 1500 watt portable generator, with 25% reserve, especially designed for fire department service. Lightweight, rugged and compact. Air-cooled 4-cycle engine 2¾" bore x 2¾" stroke. Quick starting. Fully guaranteed, thoroughly dependable.

★ *Write for catalog* ★

SECURITY FIRE EQUIPMENT CO.
1550 Princeton Ave. Trenton, N. J.

BOYER

Headquarters for
"DEPENDABLE"
FIRE APPARATUS and FIRE DEPARTMENT SUPPLIES

★

FORTIFY FOR FIRE FIGHTING

★

BOYER FIRE APPARATUS CO.
LOGANSPORT INDIANA

CHANGE IN DATE OF I. A. F. C. CONFERENCE

The Annual Conference of the International Association of Fire Chiefs will be held at Grand Rapids, Mich., on August 28, 29, 30 and 31 instead of August 22-25, the dates originally selected.

The change was necessary in order to insure satisfactory hotel accommodations, as another association had booked facilities for the same week selected by the I. A. F. C.

An outstanding program is being developed for the meeting, including some very unusual and timely outdoor demonstrations.

New Fire Station for Charlotte

Purchase of a lot for $3,500 adjacent to Charlotte's (N.C.) Dilworth fire station on South Boulevard has been authorized by the City Council. The lot will be added to the site of the Dilworth station property, making a large area for the erection of a new station as soon as war conditions and priorities permit building of same. The present Dilworth station, oldest of the Charlotte Fire Department's system of stations, will be razed to make room for a modern station. The Dilworth station was built in the days of horse-drawn fire equipment, and is outmoded by many years.

D. G. SPENCER

Orie Hand Chief at Lincoln Park

Orie Hand, a member of the Lincoln Park, Mich., Fire Department for the last eighteen years has been named fire chief to succeed Adolph Fernelius who, because of ill health, was placed on the retirement list by the Fire Commission.

Chief Fernelius has been ill since December 1 when he suffered a stroke that ultimately resulted in the entire loss of his eyesight.

Chief Hand has risen through the ranks since joining the department, and was promoted to his present position from that of captain, a rank he has held since 1927. He and Chief Fernelius were the first two men to join Lincoln Park's Fire Department when it was organized.

GEORGE B. HILL

Chief R. W. Henderson Dies

Robert W. Henderson, Chief of the Thomaston, Conn., Fire Department for the past seventen years, died at his home there on April 1, after a long illness. Chief Henderson was a life-long resident of Thomaston and had been identified with the Thomaston Fire Department for the past thirty years.

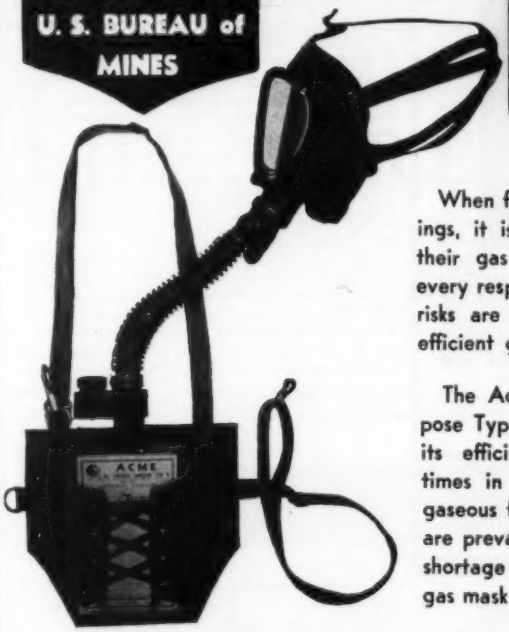
The late Chief Henderson served as a County Vice-President of the Connecticut State Firemen's Association, representing Litchfield County and also was a member of the Fire Chiefs' Club of Connecticut. For the past thirty-seven years he was employed at the Scoville Manufacturing Company in Waterbury.

THOMAS F. MAGNER.

Dependable Service with All-Purpose Gas Masks

APPROVED BY U. S. BUREAU of MINES

ACME TYPE FD For Firemen



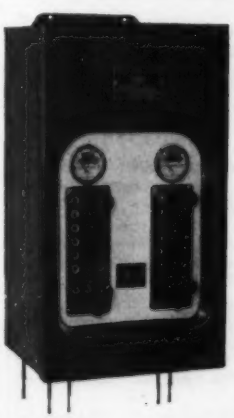
When firemen enter burning buildings, it is absolutely necessary that their gas masks be dependable in every respect. Too many unnecessary risks are taken with faulty and inefficient gas masks.

The Acme FULL VISION All-Purpose Type FD Gas Mask has proven its efficiency of protection many times in areas where toxic smokes, gaseous fumes and carbon monoxide are prevalent. With the present day shortage of firemen, only the best gas mask should be worn.

Featured in this Gas Mask are exclusive Wide, Flat, Shatter-proof Safety Glass Lenses that provide Non-Distorted FULL VISION to all sides; Protection against Carbon Monoxide, Organic Vapors, Acid Gases, Toxic Smokes, Fumes, and Smoke Suffocation; Easily Read Acme Automatic Timer; Patented Acme Dead-air Check Valves, and many other important features that fire department gas masks require.

WRITE FOR PRICES and LITERATURE

ACME PROTECTION EQUIPMENT COMPANY, INC.
Manufacturers
3616 LIBERTY AVENUE Cable Address: ACMEPROCO PITTSBURGH, PA. U.S.A.



A versatile

BATTERY CHARGER

This Full-wave Tungar is a truly versatile battery charger. At 2 to 6 amperes it will handle twenty-four 6-volt batteries, or twelve 12-volt batteries, or six 24-volt batteries. At 2 to 12 amperes it will handle twelve 6-volt batteries, or six 12-volt batteries or three 24-volt batteries. It is a strong, toughly built unit designed for fast, one-day service. It will give a fast or slow charging rate or a combination of both. And it's economical, highly efficient and very easy to operate. Address inquiries to Section A 543-58, Appliance and Merchandise Department, General Electric Co., Bridgeport, Conn.

GENERAL ELECTRIC

JANESVILLE QUALITY TURN OUT CLOTHING

Our turnout suits are giving excellent satisfaction in most of the large fire departments throughout the U. S. and

THERE MUST BE A REASON WHY SO MANY FIREMEN INSIST ON JANESVILLE QUALITY

NOW AVAILABLE!

We can now supply old type ¾ Felt-lined Firemen's Boots.

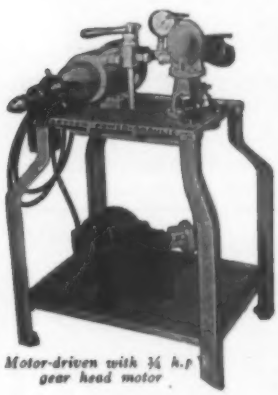
JANESVILLE APPAREL CO.

JANESVILLE, WIS.

In Line with

NATIONAL DEFENSE

DAYTON POWERDRAULIC



Motor-driven with ¾ h.p. gear head motor

★

Expands couplings from ¾" to 6" size.

Tests hose up to 700 lbs.

Extra attachment removes old expansion rings from old couplings. No manual effort needed.

★

FOR THE PROPER CARE OF HOSE

MORE PRESSURE - LARGER MOTOR
ROOMIER WORK TABLE
REPLACEMENT SEGMENTS (ALL SIZES)
FOR ANY OLD HYDRAULIC EXPANDER

SEND FOR ILLUSTRATED BULLETIN

DAYTON FIRE EQUIPMENT CO.

1242-48 W. 2ND ST. - DAYTON 7, OHIO

Oil and Gasoline Destroyed in Six-Alarm Fire

A six-alarm fire recently leveled the block-long Economy By-products Company plant on Oakland's waterfront, destroying 150,000 gallons of oil and gasoline in various stages of processing at the plant, doing $150,000 damage to the plant and equipment and injuring one Oakland fireman.

Employes of the plant, located on Alameda Avenue near High Street, were completing the plant's single shift at 3:30 p.m. on March 23 when an explosion occurred, apparently in an oil separator. Immediately that area of the plant burst into flames and spread quickly. Forty-five minutes later while firemen were fighting the blaze, there were two additional explosions. In a matter of minutes the entire plant, a block long and three quarters of a block wide, was an inferno of flames with exploding gas drums adding to the difficulties of the fire fighters.

Fire Chief William G. Lutkey turned down a suggestion that the fire be dynamited on the basis that such a move would endanger nearby plants and the firemen continued to pour water on the flaming plant for nearly five hours before the fire was brought under control.

The spectacular fire was visible for miles and a heavy pall of smoke hung over the nearby Oakland estuary, blanketed the surounding industrial area and was blown over the neighboring residential areas.

A number of railroad cars, some loaded with oil and gas, were hauled out of danger by Southern Pacific Company engineers.

Francis Morin, manager of the plant, which was processing the oil and gasoline for the Navy, said he thought the fire might have been of incendiary origin but investigators later found nothing that would indicate someone had "touched off" the place.

BOB GREENOCK.

Factory Fire Threatens Branford

Fire which started in the woodworking plant of the Stevens Woodcraft Company at Brandford, Conn., on March 1, completely destroyed the two-story factory, leveled the adjoining Red Men's Hall, wrecked the three-family home of Leon Parker, destroyed the steeple of Congregational Church and the roof of the First Baptist Church and started a dozen roof fires within a radius of 3,500 feet. It was Branford's worst fire in over a quarter of a century.

Fanned by a high wind, sparks from the burning woodworking plant were carried almost a quarter of a mile from Main Street in the town's center. Firemen were forced to call on nearby towns for assistance.

A blazing ember, carried by the strong wind, lodged in the lower steeple of the Congregational Church and before firefighters could reach it, the flames had destroyed most of the steeple and the interior of the church had been extensively damaged by smoke and water. A blaze on the roof of the First Baptist Church destroyed a considerable area before it was extinguished.

Cause of the blaze was not determined and there was no official estimate of damage.

THOMAS F. MAGNER

"ALL AMERICAN CHOICE" INVINCIBLE NOZZLES

PREPARE — PROTECT

Portable equipment is the watchword of today.

Buy—

INVINCIBLE NOZZLES

and enjoy the benefits derived by experience of the pioneers in the nozzle field.

Fig. 403

F. N. McINTIRE BRASS WORKS

Successors to A. J. Morse & Son, Inc.

BOSTON, MASS.

1837 - - 1941

EDDY

Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience goes into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.

Waterford, N. Y.

Manpower Shortage in N. Y. Fire Department Causes Platoon Changes

Because of the critical, and rapidly increasing, shortage of personnel in the Uniformed Forces of the New York Fire Department Chief and Commissioner Patrick Walsh has found it necessary to order some changes and modifications in the platoon schedules. In addition to unfilled vacancies of more than 900 officers and men, due to deaths and retirements, there are 1,250 men of all ranks and grades on military leaves, creating an actual shortage of upward of 2,000 men from an allowed quota of 10,854.

The Department attempted to secure Temporary Firemen to fill military vacancies after the necessary legislation had been passed, but only about 100 qualified applicants were found to take the jobs. There are now about 80 of these Temporary Firemen on the roster.

Effective April 1st, the Chief Officers of the Department were placed on a modified three-platoon schedule, working 24 hours on, and 48 hours off, instead of the regular three-platoon schedule of six eight-hour tours followed by a leave of 32 hours. The chart now in effect causes the Chief Officers to work an additional eight hours each week. The allowed quota of Chief Officers is 215, with 191 positions filled. Of Company Officers 1,271 are on the rolls, including military leaves. The allowed quota is 365 Captains and 1,069 Lieutenants.

On May 1st, the Eighth Division, composed of the 21st, 22nd and 23rd Battalions, and including 23 companies, with a Division quota of 591 officers and men, returned to the two-platoon system of duty, working the straight two-platoon chart. This schedule provides for nine and 15-hour duty tours, with one "long day" of 24-hours duty, and one 24-hour off-day in each cycle of six days.

During the transition period from the two-platoon to the three-platoon systems of duty, from March 1, 1937 to the end of 1939, the Department adopted the "elimination" two-platoon schedule, and gradually relieved the Uniformed Force from performing the "long day" tour. The chart now being worked by the Eighth Division does not include the "elimination" feature.

Since the order affecting the Eighth Division was issued Commissioner Walsh has further extended the two-platoon system, installing it in the Twelfth and Fourteenth Division and the Forty-second Battalion of the Thirteenth Division, on June 1st. This supplemental order affects nine more Battalions and seventy-five additional Companies and puts about 2,600 Company officers and members on the two-platoon schedule.

CLARENCE E. MEEK

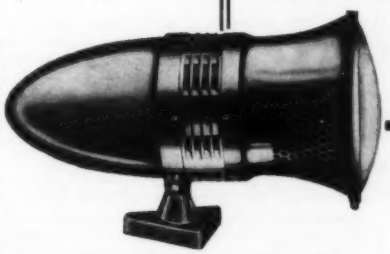
Three Die in Mattress Fire

Two women and a man died as a result of smoke inhalation in a three-alarm fire which swept the Hauptman Feather Company's factory in Brooklyn, New York, on May 26.

Property damage to the factory which manufactures mattresses, has been estimated at more than $100,000.

COMBINED SIREN and FLASHING BEACON

for Efficiency and Economy!



"Automatically Flashes On and Off"

THE SIRENLITE

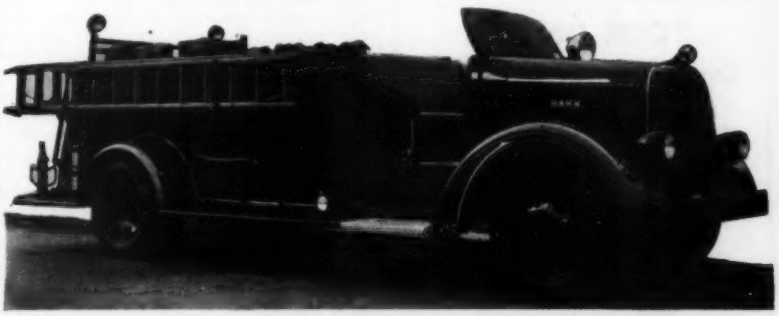
This modern, up-to-the-minute SIRENLITE, No. 20, combines a shrill, penetrating siren and a brilliant, flashing red light to produce the most efficient and economical warning alarm that money can buy.

It is precision-built in the world's largest siren factory, and assures your apparatus quick, safe and sure passage even through the thickest traffic. The combination costs only slightly more than the siren alone and nowheres near the cost of the siren and light if purchased separately.

SIRENLITE No. 20 carries the guarantee of more than 30 years of exclusive siren manufacturing. Stick to Sterling and be safe!

Write for detailed literature

STERLING SIREN FIRE ALARM CO., Inc.
55 Allen Street Rochester, New York



"HAHN" FIRE APPARATUS

SINCE 1907

FINEST IN THE WORLD ★ STREAMLINED ★ BALANCED CHASSIS ★ AMPLY POWERED ★ VERY EFFICIENT PUMPS WITH PLENTY IN RESERVE

★

HAHN MOTORS, Inc.

HAMBURG, PA.

FIRE ALARM BOX

HARRINGTON
FA-26

These high quality fire alarm boxes are made of cast aluminum inside as well as out. This makes for fast, light, easy installation and long life, free from corrosion.

They are equipped with quick action doors, made to meet every specific requirement, and are non-interfering of the shunt and successive type circuit.

HARRINGTON
SIGNAL COMPANY
Moline - - - Illinois

Correspondence

(*Continued from page 362*)

It has been said and often reiterated that the purpose of studying fire department hydraulics is to develop in the student a judgment that makes it possible for him to select the right layouts and figure the correct engine pressures so that the resulting nozzle pressure will produce effective fire streams.

As most problems in hydraulics are a matter of determining engine pressure when nozzle pressure is given or determining nozzle pressure when engine pressure is given, it is my desire to offer a method that has some advantages over the conventional method that involves the use of formula as commonly used by fire departments in the solution of these problems.

The advantages claimed are as follows:

1. The method is much quicker and is accurate from a practical standpoint.
2. The use of the constant K and the entire formula for solving engine pressure is eliminated.
3. Most problems can be solved mentally.

A brief statement of fact is that with any layout, no matter how complicated, any increase in engine pressure causes a proportionate increase in nozzle pressure. This rule of proportion works for either an increase or decrease of pressure and applies to either engine or nozzle pressure whichever is not known.

For example, if a layout is such that with 100 pounds engine pressure there is a nozzle pressure of 50 pounds and the engine pressure is raised to 150 pounds, or a fifty per cent increase, then the nozzle pressure will be increased fifty per cent or to 75 pounds.

This being true, it becomes obvious that by adopting a standard nozzle pressure and knowing the friction loss resulting from the flow that is caused by that pressure on different sizes of tips, anyone can determine the engine pressure for different length lines. Only 2½-inch hose lines are here considered.

For example, using round numbers which are accurate enough for practical work:

Fifty pounds nozzle pressure on 1-inch tip equals 10 pounds friction loss per 100 feet.

Fifty pounds nozzle pressure on 1⅛-inch tip equals 15 pounds friction per 100 feet.

Fifty pounds nozzle pressure on 1¼-inch tip equals 25 pounds friction loss per 100 feet.

With the above figures in mind, it is a simple matter to determine the engine pressure for any length of line of 2½-inch hose at 50 pounds pressure.

Then, if the engine pressure given in a problem is higher than it would be at the standard nozzle pressure, the nozzle pressure would be proportionately higher.

If the nozzle pressure given in a problem is higher than the standard pressure, then the engine pressure will be proportionately higher.

The solution of problems by this method is simpler than the explanation. Here is how it works on the fire ground:

You are pumping through 500 feet of 2½-inch hose with a 1-inch tip. At

The element of time is of first importance in the successful treatment of burns. If a burn is treated within 15 minutes after it occurs, the probability of blister formation is reduced to a minimum. But if time is wasted before proper treatment is started, serious complications and infection may follow.

When using Gebauer's TANNIC SPRAY in the treatment of burns, the factors involving time-loss are eliminated. This preparation is a stable solution of tannic acid ready for immediate use. Packaged in a sturdy amber bottle having an automatic dispensing cap, which permits the projection of the solution in the form of a fine jet stream. Upon application the solvent evaporates rapidly, covering the burn with an evenly applied, dry and flexible film of tannic acid.

Gebauer's TANNIC SPRAY is a practical *first* first-aid treatment for first, second, and small area third degree burns. Write for literature.

THE GEBAUER CHEMICAL CO.
9410 St. Catherine Ave. • Cleveland 4, Ohio

YOUR DEALER

Can Now Furnish PROMPTLY
Any Item in the
COLT LINE OF FIRE EQUIPMENTS

If You Have Proper Rating

●

Colt Shut-Off Nozzles and Allied Fire Equipment are doing their part in this world conflict. May they also serve to protect lives and property on your home front?

●

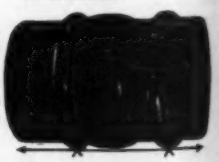
EXCELSIOR BRASS MFG. CO.
3452 N. Knox Ave., Chicago, Ill.

Manufacturers of the COLT Nozzle and Fire Department Brass Goods for 30 Years

DOUBLE SERVICE *with* BI-LATERAL

This installation shows the position of the rubber lining in BI-LATERAL FIRE HOSE when held in a flattened position between calls into service. This is why we can save a city one replacement, because this hose will give double service of any hose constructed under the old method.

Also we can load 25% more on the apparatus bed actually making an $8,000 truck loaded with Bi-Lateral construction, cheaper than a $7,000 one loaded with other construction.



Here's the new DROP-FORGED rocker lug coupling (not cast bronze) with the swivel protecting feature.

BI-LATERAL FIRE HOSE CO.
20 No. Wacker Drive Chicago, Ill.

50 pounds nozzle pressure, the engine pressure would be 100 pounds. You decide that you want 70 pounds on the nozzle. this is an increase of 20 pounds over the standard of 50 pounds pressure which is two-fifths or 40 per cent. Therefore, raise the engine pressure 40 per cent, making it 140 pounds.

With the same layout to find nozzle pressure if the engine pressure is 180 pounds. This is an increase of 80 per cent over what it would be with the standard nozzle pressure. Therefore, nozzle pressure is increased 80 per cent over standard, or 40 pounds, making 90 pounds nozzle pressure.

It is my contention that using this method and making mental calculations is better practice and will go farther toward developing good judgment than will adhering entirely to the "Underwriters Formula."

Cordially,
ARTHUR R. MASON,
Captain, Engine Co. No. 3,
Fort Dix, N. J., Fire Department.

Assistant Chief F. O. Spaine Retires

After thirty-eight years of service as a member of the New Haven, Conn., Fire Department, First Assistant Chief Francis O. Spaine submitted his petition for retirement on April 12. The Board of Fire Commissioners and Retirement Board met in special session and granted the request.

Assistant Chief Spaine, one of the best known fire officials in Connecticut, joined the New Haven Fire Department in 1906 as a fireman attached to Engine Company No. 3 and in 1915 was promoted to a lieutenant.

Two years later, having qualified by Civil Service examination, he was advanced to the rank of Captain and in 1919 was named a battalion chief. On January 18, 1928, he was appointed to the post of first assistant chief and has been second in command of the department since that time.

Chief Spaine is a graduate of the New York Fire College where he received high honors. He also helped in the formation of the New Haven County Fire Chiefs' Emergency Plan and held the office of President of the Plan soon after it was organized.

THOMAS F. MAGNER.

Fire Losses Continue Upward Trend

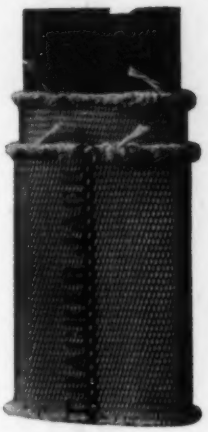
Fire losses in April in the United States were estimated at $34,746,000, an increase of $505,000 or one per cent over losses in April, 1943, it was announced recently by W. E. Mallalieu, General Manager of the National Board of Fire Underwriters. These losses were the highest recorded for any April since 1932, when they totalled $43,822,000. The Board's estimates are based on incurred losses reported by member companies, plus an allowance for unreported and uninsured losses.

The April losses were $4,338,000 or eleven per cent below losses of $39,084,000 reported in March. Losses in the twelve months ended with April 30, are estimated at $396,554,000 as compared with $324,363,000 for the year ending with April, 1943.

Stands the Gaff!

Now being made with Ar-Polene, the American synthetic—

Crackerjack Fire Hose Can Take It



The same qualities that have made this hose the standard on the Pacific Coast ever since 1905 are being maintained today.

AR-POLENE

—the American synthetic, is blended in various ways to meet each particular requirement. Yes, you can depend upon fire hose made with Ar-Polene!

The
AMERICAN RUBBER
Manufacturing Co.

Factory and General Offices:
Park Avenue and Watts Street **Oakland 8, California**

INTEGRITY

You never literally see the integrity of a manufacturer of Fire Fighting Equipment.

Yet many a time in the course of your fire-fighting career, you may have risked a very great deal *on* his integrity.

Why? Because the DEPENDABILITY of your equipment is a direct result of the knowledge, the reliability and the INTEGRITY of the man who makes it.

For 30 years Hale Fire Pumps have rigidly upheld a high standard of dependability—a dependability that has won the respect of users all over the world.

FIRE PUMPS HALE CONSHOHOCKEN

Write for our catalog and new folders, describing the complete line of Hale Fire Pumps in all standard sizes.

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

Elkhart nozzle tips for fire department use are now SUPERFINISHED! This latest improvement makes possible a more perfect stream than ordinary finishing methods can produce.

SUPERFINISHING gives you a straight, *accurate* bore. This and the mirror finish result in a more solid, longer reaching stream.

SUPERFINISHED nozzles represent another forward step in Elkhart's continuing search for new ways to improve fire-fighting equipment. We believe that our latest improvement will add materially to the high efficiency and experienced skill of America's fire departments.

ELKHART BRASS MFG. COMPANY, *Inc.*

ELKHART, INDIANA

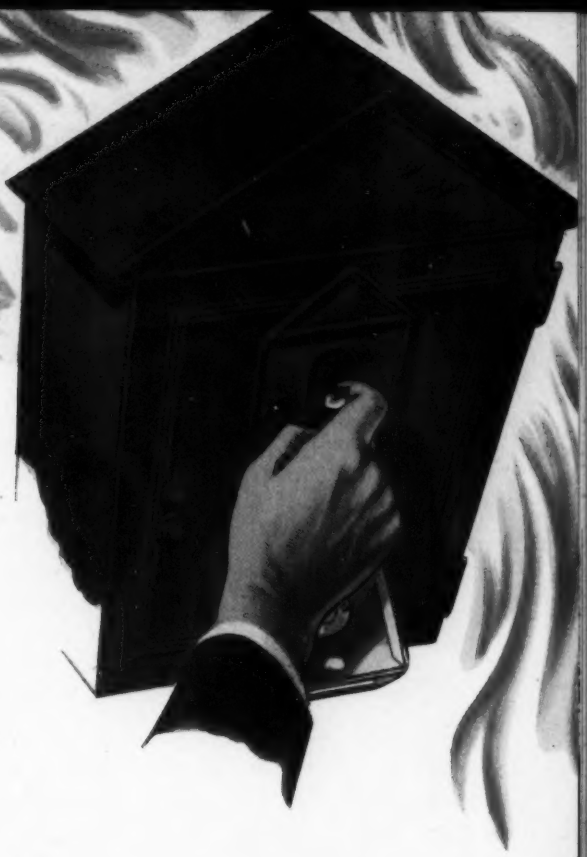
ADVERTISING INDEX

FIRE ENGINEERING

JUNE, 1944

	Page
Acme Protection & Equipment Co.	395
Akron Brass Mfg. Co., Inc.	341
Aluminum Ladder Company	390
American Car & Foundry Co.	373
American-LaFrance-Foamite Corp.	337
American Marsh Pumps, Inc.	371
American Rubber Mfg. Co.	399
Anderson Fire Fighting Co., Inc.	336
Atlas Safety Equipment Co., Inc.	378
Bean Mfg. Co., John, Division, Food Machinery Corp.	334-335
BiLateral Fire Hose Co.	398
Boyer Fire Apparatus Co.	394
Braxmar Co., Inc., C. G.	389
Briggs & Stratton Corp.	
Buckeye Iron & Brass Works	388
Carpenter Mfg. Co.	392
Central Fire Truck Corp.	393
Circul-Air Corp.	385
Cover, H. S.	376
Curtis & Sons, L. N.	375
Dayton Fire Equipment Co.	396
Dugas Engineering Corp.	374
Duo Safety Ladder Corp.	333
E & J Mfg. Co.	339
Eastman Company, Inc., Samuel	390
Eddy Valve Co.	396
Elkhart Brass Mfg. Co.	400
Emerson Co., J. H.	Inside Front Cover
Eureka Fire Hose Div. U. S. Rubber Co.	386
Excelsior Brass Mfg. Co.	398
Federal Electric Co.	331
Fog Nozzle Co.	Back Cover
Food Machinery Corp.	379
Four Wheel Drive Auto Co.	Inside Back Cover
Fulton Bag & Cotton Mills	392
Gamewell Company	346
Gebauer Chemical Co.	398
General Detroit Corp.	367
General Electric Co.	395
Goodall Rubber Co.	380
Hahn Motors, Inc.	397
Hale Fire Pump Co.	399
Hardie Mfg. Co.	361
Harrington Signal Co.	398
Homelite Corp.	364
Janesville Apparel Co.	396
Kidde & Co., Inc., Walter	345
Koehler Mfg. Co.	379
M. & H. Valve & Fittings Co.	376
McIntire Brass Works, E. N.	396
Mack Manufacturing Corp.	363
Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc.	392
Maxim Motor Company	338
Midwestern Mfg. Co.	384
Mine Safety Appliance Co.	382
National Foam Systems, Inc.	377
National Power Extinguisher Corp.	383
Oren Fire Apparatus Co.	343
Pacific Marine Supply Co.	391
Peter Pirsch & Sons Co.	344
Powhatan Brass & Iron Works	372
Quaker Rubber Corp.	378
Regalia Mfg. Co.	394
Rockwood Sprinkler Co.	342
Seagrave Corp.	340
Security Fire Equipment Co.	394
Sireno Co.	388
Smith & Co., D. B.	387
Sterling Siren Fire Alarm Co., Inc.	397
Ward LaFrance Truck Corp.	368
Waterous Company	383
Wentworth-Forman Co., Inc.	394
Wooster Brass Co.	392

How Soon



WILL YOUR APPARATUS GET THERE?

ust as surely as you get more than twice the water through a inch hose as is possible through a 2 inch hose—so do you ouble your certainty of getting to the fire quicker and safer ith four-wheel-drive apparatus—for with the FWD—all four heels are alive with power and grip the road for the run -and slippery roads and bad grades, impassable to ordinary ehicles—are safely negotiated with FWD's . . . the two drivng axles of the FWD, delivering powered traction to front as ell as rear wheels, give you double protection in safety and ependability—protect the lives of firemen and users of the reet—FWD is doubly sure of getting to the fire. Its increased traction and positive control save minutes that count. Cities from coast-to-coast look to FWD apparatus for this xtra safety and performance. Available in a complete line f fire trucks with rotary or centrifugal pumpers in triple r quadruple combination, aerials, etc. Write for literature.

THE FOUR WHEEL DRIVE AUTO COMPANY

Canadian Factory: Kitchener, Ontario

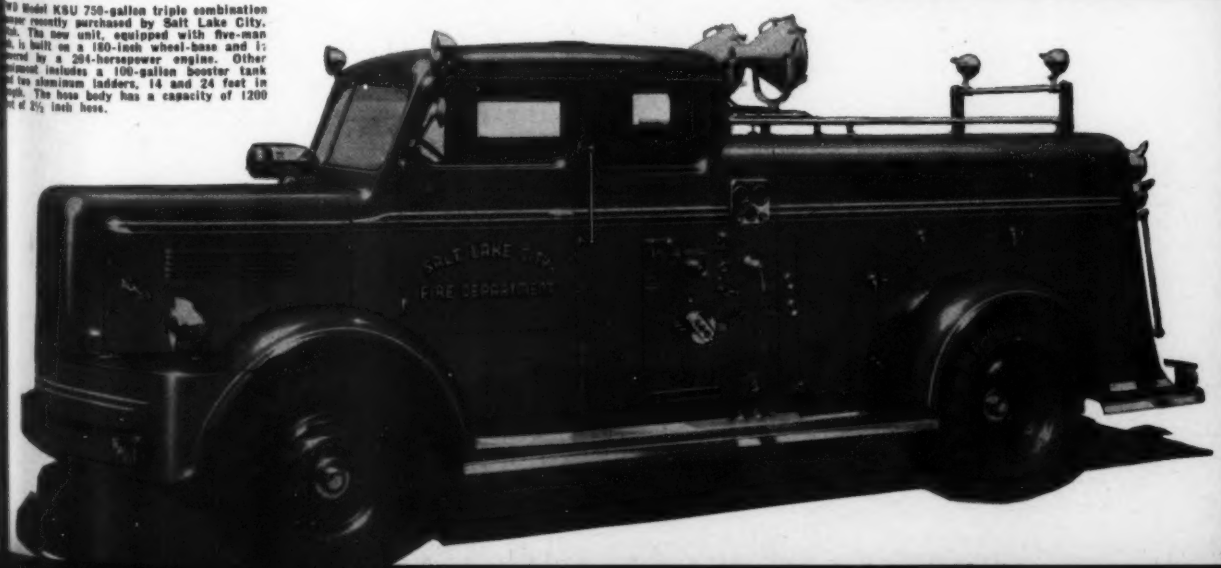
CLINTONVILLE WISCONSIN

FWD

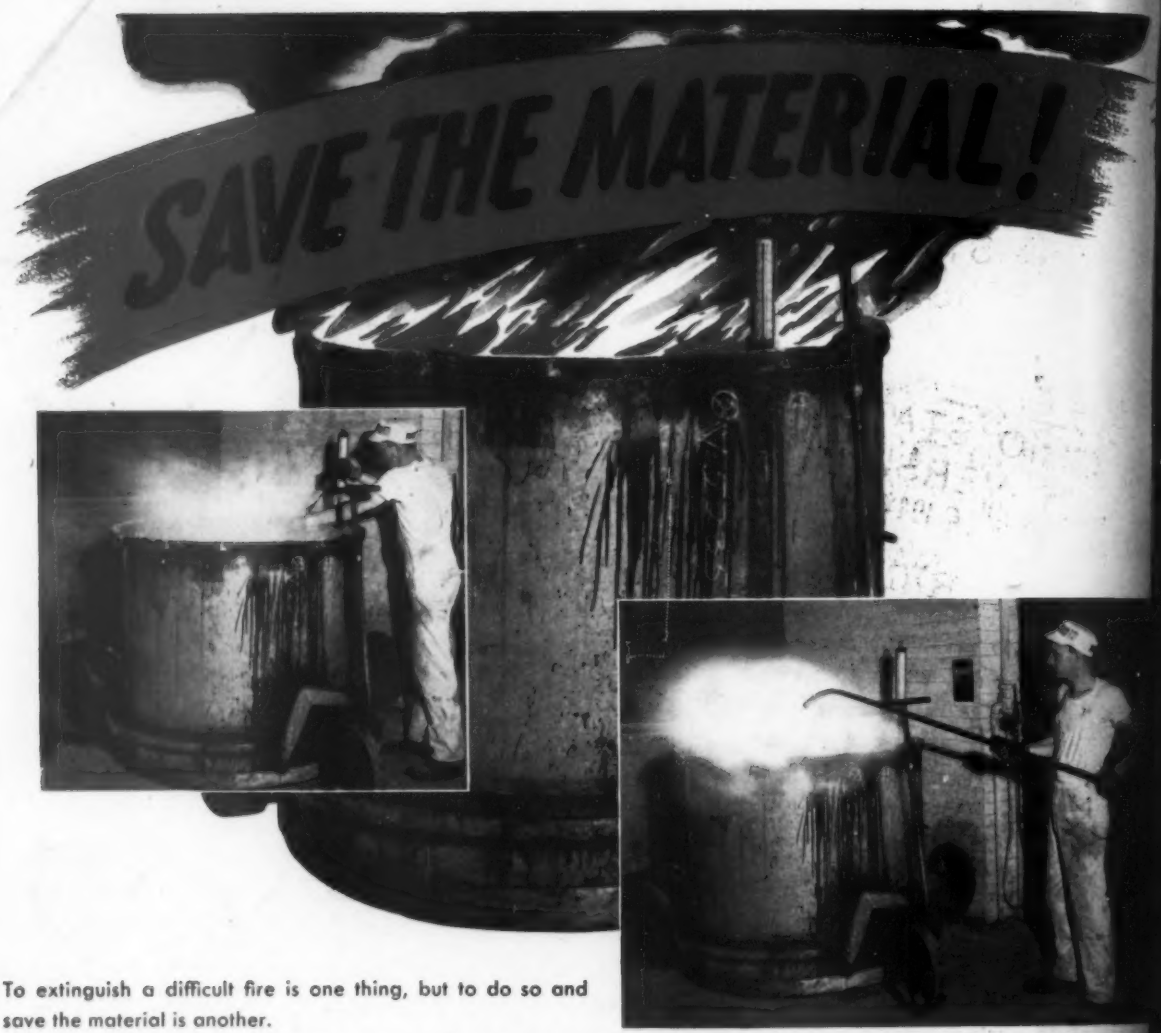
FOUR WHEEL DRIVE

FIRE APPARATUS

***Built By the Oldest and Largest Four-Wheel-Drive Truck Manufacturer**



WD Model KSU 750-gallon triple combination ngine recently purchased by Salt Lake City, tah. The new unit, equipped with five-man ab, is built on a 180-inch wheel-base and is owered by a 284-horsepower engine. Other uipment includes a 100-gallon booster tank nd two aluminum ladders, 14 and 24 feet in ength. The hose body has a capacity of 1200 eet of 2½ inch hose.



To extinguish a difficult fire is one thing, but to do so and save the material is another.

In the illustrations above is shown a varnish kettle fire. In extinguishing this fire the material (varnish), may be lost by improper application of water or by the use of detrimental chemicals. Due to the heat wave extending through the entire body of liquid, application of too much water will cause a boil-over. By the use of LOW Velocity Fog from an All Purpose Fognozl, intermittent application of Water Fog to the fire and to the outside of the kettle, will keep the fire under control and at the same time reduce the temperature of the heat-wave below the flash point. The fine fog particles so quickly turn to steam that not only are the burning vapors diluted, but so little water finally gets to the material that boil-over is prevented.

• FOGNOZL FACTS—PREPARE BY ACCUMULATING DATA ON THIS NE WATER FOGNOZL FIRE-FIGHTING METHOD THAT HAS REVOLUTIONIZE OLD METHODS. FOGNOZL ACCOMPLISHMENTS ARE DAILY EMPHASIZ BY OUR ARMED FORCES.

• A BROCHURE OF FOGNOZL FACTS WILL BE SENT, WITHOUT OBLIGA TION, TO THOSE ENGINEERS OR EXECUTIVES WHO WILL SO REQUE IT ON THEIR OFFICIAL OR DEPARTMENT LETTERHEAD.

IN FOLDER CONVENIENT FOR YOUR FILE

We offer you a prize of $100 for the picture (or a set of pictures) sent in by any fireman, showing a fire of any kind being extinguished with any of our various models (old or new) of ALL-PURPOSE FOGNOZLS. The only requirement is that the pictures must be of sufficient value to be reproduced and are used in our monthly advertisement on the back cover of Fire Engineering. We will use the best picture for this purpose and send $100 to prize winner. Offer is open for next few issues of this magazine.

- PROTECTION TO PERSONNEL
  TO FIREMEN AND FIRE VICTIMS
- RAPID EXTINGUISHMENT
  A MATTER OF SECONDS
- REDUCED WATER DAMAGE
  A RATIO OF 1 TO 30 GALLONS
- ECONOMY & AVAILABLE SUPPLY
  PLAIN WATER

FOG NOZZLE Company

GRISWOLD ORIGINAL WATER FOGNOZL

1520 EAST SLAUSON AVENUE • LOS ANGELES 11, CALIFORNIA

FOG NOZZLE OF CANADA, LTD., MONTREAL, CANADA